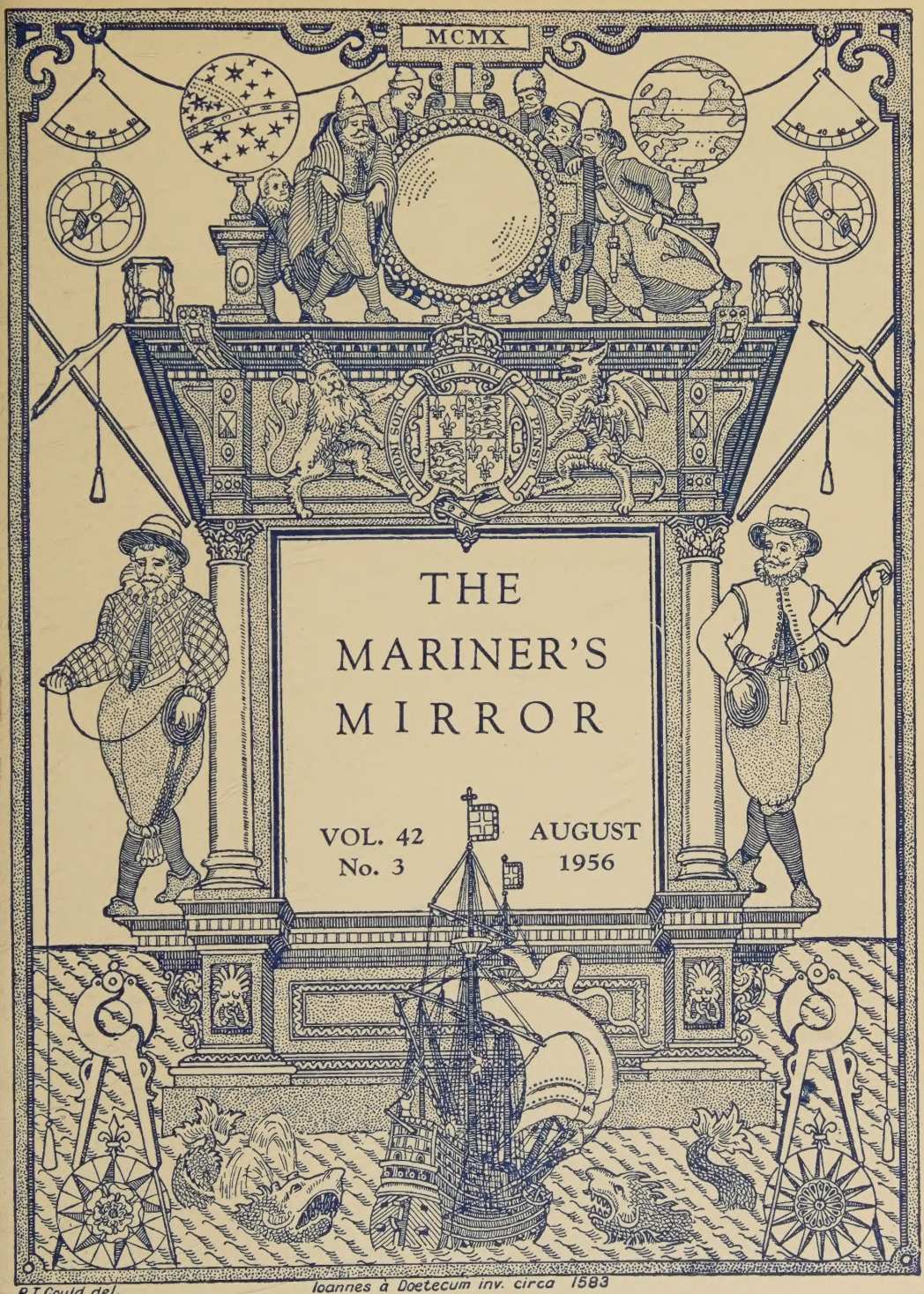
THE QUARTERLY JOURNAL *of the* SOCIETY FOR NAUTICAL RESEARCH



THE MARINER'S MIRROR

VOL. 42 No. 3 AUGUST 1956

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The aim of the Society being to arrive at true conclusions through free discussion, it is distinctly to be understood that the Editor is not held responsible for statements made in the *Journal*.

Contributions and correspondence should be addressed to G. R. G. WORCESTER, ESQ., *Penny Cottage, Pound Lane, Windlesham, Surrey*. All articles, notes, queries, answers and reviews of books should be typed, on one side of the paper, preferably quarto, with double-spacing and with a wide margin. The name and address of the author must be given on the last page. As a general rule, the length of an article should not exceed 10,000 words and, owing to the high costs of production, photographs and line drawings to illustrate contributions must be restricted to a minimum.

Names of ships should be underlined to denote *italics*, and not written within inverted commas.

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The MARINER'S MIRROR

WHEREIN MAY BE DISCOVERED HIS
ART, CRAFT & MYSTERY
after the manner of their
use in all ages and
among all
Nations

VOL. 42. NO. 3 AUGUST 1956

CONTENTS

EDITORIAL NOTES

MARINER'S MIRROR INDEX

The Society will always owe a debt of gratitude to its President, Dr R. C. Anderson, for compiling an index to the first 35 volumes of the Mariner's Mirror. This index is now on sale and copies can be obtained on application to the Secretary, Society for Nautical Research, price 10*s*. 6*d*. to Members and 15*s*. to non-members.

CORRECTION

Vol. 42, no. 2, p. 162. The Note on the Isles of Scilly gigs was wrongly attributed to Commander H. O. Hill, R.N. The author was, in fact, Mr R. H. C. Gillis who, it will be remembered, also wrote the Note on the Newquay Pilot Gigs in vol. 41, no. 3.

G. R. G. WORCESTER

MEDITERRANEAN GALLEY-FLEETS IN 1725

By R. C. Anderson

THE early years of the eighteenth century saw the relegation of the fighting galley to a very minor role in its original home, the Mediterranean, and its appearance as an important factor in the Baltic. Galleys took part in the battle of Matapan in 1717, but seem to have contributed little towards its result, such as it was, and after that, although there were still galleys in the smaller Mediterranean navies until Napoleonic times, they never achieved, or even attempted, anything of note. On the other hand, the first galley action in the Baltic, that of Hangö Udd (or Gangut in its Russian form) in 1714, marked the beginning of a period of some 100 years in which the rowing fleets of Sweden and Russia had at least as much influence as their sailing men-of-war on the series of wars between them.

The reason for this lay in the nature of the greater part of the Swedish and Finnish coastline, more especially the latter. Wars between Sweden and Russia were mainly concerned with the gradual ousting of the Swedes from Finland, where any large-scale military operations were necessarily confined to the narrow coastal strip on the north side of the Gulf of Finland. Now, from Viborg westward to the Åland archipelago the Finnish coast is fringed by a belt of rocks and islands which forms a barrier between the mainland and the open sea and at the same time provides a safe coastwise route for a flotilla even in face of a hostile superiority at sea. There had been galleys in both Sweden and Denmark in the seventeenth century, but it was the appearance of Russia on the Baltic that first brought them into a position of real importance.

Peter the Great launched his first Baltic galleys in 1704, and continued to build them in such numbers that he was able to bring more than 100 into action in 1714; whereas Sweden, impoverished by a century of almost constant war and with its ruler a prisoner in Turkey, was quite unable to match such an effort and suffered badly in consequence, not only in Finland, but nearer home. In the last three years of the war, 1719–21, Russian galleys descended on the coast of Sweden itself, harrying and burning from Piteå in the north to Norrköping in the south and even penetrating to within a few miles of Stockholm.

The treaty of Nystad confirmed Russia's hold on the coast from Riga to Petersburg and thence westwards as far as Viborg, but it returned the rest

of Finland to Sweden and thus left the problem of its defence unchanged. Bitter experience had shown that this entailed the provision of an adequate flotilla, and with this in view a shipbuilder and two naval officers were sent to the Mediterranean in 1722 to study the organization and material of the chief fleets still using galleys, those of France, Venice, Tuscany and the Knights of Malta.

According to Mankell, the historian of the Swedish rowing-fleet, this commission spent six years abroad, but one of its members, Abraham Falkengréen, who afterwards commanded the Swedish galleys in the war of 1741–3, was certainly back in Sweden sooner, since he dated his long report from Karlskrona on 9 February 1726. This report is now in my possession, bought during the war with no indication of how it came to this country. Swedish friends have told me that the fair copy is to be found in the Swedish Admiralty Archives, so that mine is probably the author's preliminary draught. It is, however, complete in itself and forms a very useful source of information.

Unfortunately it is by no means easy to read. Falkengréen naturally wrote in Swedish, but was obliged to introduce many French or Italian words and made things still more difficult for a modern translator by writing for the most part in old-fashioned 'German' characters. I do not pretend to have read more than occasional sections of the report at all thoroughly, but I think that what I have been able to extract from it is correct as far as it goes.

The details given of the comparative measurements of galleys and their gear in the four services are easy enough to read, but there is the difficulty of knowing whether Falkengréen was using the same 'foot' throughout, and if so, which of the several possible 'feet'. If he used local measures, his figures would have been more than misleading, because the Maltese 'foot' seems to have been only about seven-eights of the French or nine-elevenths of the Venetian; what the Tuscan 'foot' was I do not know. He must, I think, have used one unit throughout, and a comparison with other information of similar date suggests that it was the Swedish 'foot' of 297 mm. With no certainty in the matter I have left the figures as they appear in the manuscript. To convert to English measure it is necessary to subtract about 6% (Table 1).

In the case of the larger French galleys we are told also that the height of the stem was 10 ft. 10 in. and that of the sternpost 18 ft. 5 in., while the beak projected 21 ft. 8 in. beyond the stem. It will be seen that Venetian galleys were smaller than those in other fleets and that the Maltese used the longest oars. The French, with the greatest depth in hold, were the most heavily sparred and the Venetians the opposite in both respects. All galleys

had foremasts much shorter than their mainmasts, because the foremast was stepped in the forecastle *above* the big gun, but both French and Venetians carried fore-yards slightly longer than the main-yards, whereas Tuscans and Maltese had their main-yards longer than the fore-yards. It is difficult to be sure, but it seems that this latter arrangement had been usual throughout the seventeenth century; certainly it was so towards the end of the eighteenth, when a small mizen had been added to the rig.

Table 1

	French		Venetian		Tuscan		Maltese	
Length	173– 4	156	170	150	171– 2	159–4	174– 2	159– 4
Beam (moulded)	21– 8	19– 9	21– 4	19	21–8¾	20– 9	22– 2	21– 3
Depth in hold	8–10	7–11	7–10	6–10	8–0½	7– 6	8– 6	7– 6
Mainmast	84– 6	75–10	78– 4	63	82– 4	74– 4	80– 6	73
Foremast	62–10	56–10	63	56	63– 9	58	63– 8	58– 6
Main-yard	124	111–17	112	98– 6	122	118–18	120–18	110
Fore-yard	125– 8	112–18	113–16	99	111	106	114	107
Pairs of oars	29	26	28	25	28	26	29	26
Length of oars	42	38– 6	42	38	42	39	43– 6	41

In this connexion it may be worth mentioning that the illustrations of Mediterranean galleys given by Witsen, Van Yk and Allard at various dates between 1671 and 1716 have all been 'cribbed' from Furttenbach's book of 1629 and are therefore of little value as evidence of the practice of about 1700. Dassié, on the other hand, is an independent authority, and makes it clear that in 1677 French galleys had their main-yards considerably longer than the fore-yards. He also shows that they were much smaller than those described by Falkengréen, being only about 143 ft. (Swedish) in length and apparently rowing only twenty oars a side.

Towards the end of the section dealing with France there is a list with dimensions of the following sixteen galleys: *Invincible*, *Gloire*, *Héroine*, *Ambitieuse*, *Duchesse*, *Hardie*, *Perle*, *Valeur*, *Réale*, *Ste. Thérèse*, *Brave*, *Favorite*, *Ferme*, *Éclatante*, *France* and *Fortune*. Of these nos. 1, 8, 9 and 10 belonged to the 29-oared 173 ft. class; nos. 2, 3, 6, 12, 13 and 16 to the smaller 26-oared 156 ft. class; while nos. 7 and 11 were slightly larger 26's, 158 ft. by 20 ft., and nos. 4, 14 and 15 were 25's measuring 151 ft. 8 in. by 19 ft. The complements of the four classes were 670, 470, 463 and 450; probably the largest class had six men to an oar and the others five.

The way in which the names appear, not in order of size, but with one of the six largest vessels at its head and the other five grouped in the centre, suggests that this is an actual order of battle. The writer seems to give no information about it and its date is uncertain, but a study of M. Le Comte's

list points to 1694 or 1695. Even then it is impossible to justify the inclusion of the *Ste. Thérèse*, because the only galley thus named was struck off the list in 1675. It may be that M. Le Comte omitted a second galley with the name *Thérèse*, or the mistake may have been Falkengréen's; a comparison with his line-of-battle of August 1716 (off Corfu) with that printed by Manfroni shows that Falkengréen is not altogether reliable with regard to foreign names.

Both he and Manfroni give another list of 1716 showing the galleys of Venice and her Allies disposed in line-abreast and here they differ in that Falkengréen includes the three Tuscans in the line, whereas Manfroni puts them in reserve and explains that this was due to their age and feebleness. This may well have been true, though two of them were at least able to take part in the battle of Matapan in the following year, but Falkengréen makes it clear that the measurements he gives for Tuscan galleys refer to those actually building in 1723 and 1724. The same is the case for Malta, and there is little doubt that his figures for French and Venetian galleys were equally up to date.

When dealing with the guns carried, the manuscript gives their calibre by means of lines of various lengths. It ignores the Venetians and is incomplete as regards the Maltese, but gives full details of both sizes and disposition for the French and Tuscans.

The larger French galleys carried a 7-inch 'coursier' (42-pr.) on the centre line firing over the beak. On either side of this came a pair of 3·9-inch guns and outside them a pair of 4·3-inch—roughly 7-pr. and 9-pr.; they had also twenty swivel-guns (3-pr.), two for use in the boat and the rest on the broadside. In the smaller class the big gun was slightly smaller, 6·8-inch, and was flanked by a pair of 3·9-inch and a pair of 4·1-inch; the number of swivels is not stated. One would suppose that it must have caused endless trouble to have two sizes of secondary guns differing so slightly in calibre, but the same thing appears in the Tuscans. Their 'coursiers' were only 24-prs. (5·7- or 5·8-inch) and the two pairs of guns outside them were even closer together in size; they are given as 4·1- and 4·2-inch for the larger galleys and 4·0- and 4·1-inch for the smaller. Both classes carried two sizes of swivel-guns, 3-pr. 'nickhakar' and 2-pr. 'falkonetter'. All these calibres are given here in *English* measure.

The Maltese galleys may have carried even bigger guns than the French. Calibres are not shown, but their lengths are given as 14 ft. and 12 ft. 8 in. as against 12 ft. for the French 42-prs., though this may only mean that the guns were longer in comparison with their bore. The smaller Maltese galleys differed from those already described in having only one pair of guns beside the 'coursier'. Again the calibre is left blank, but from the

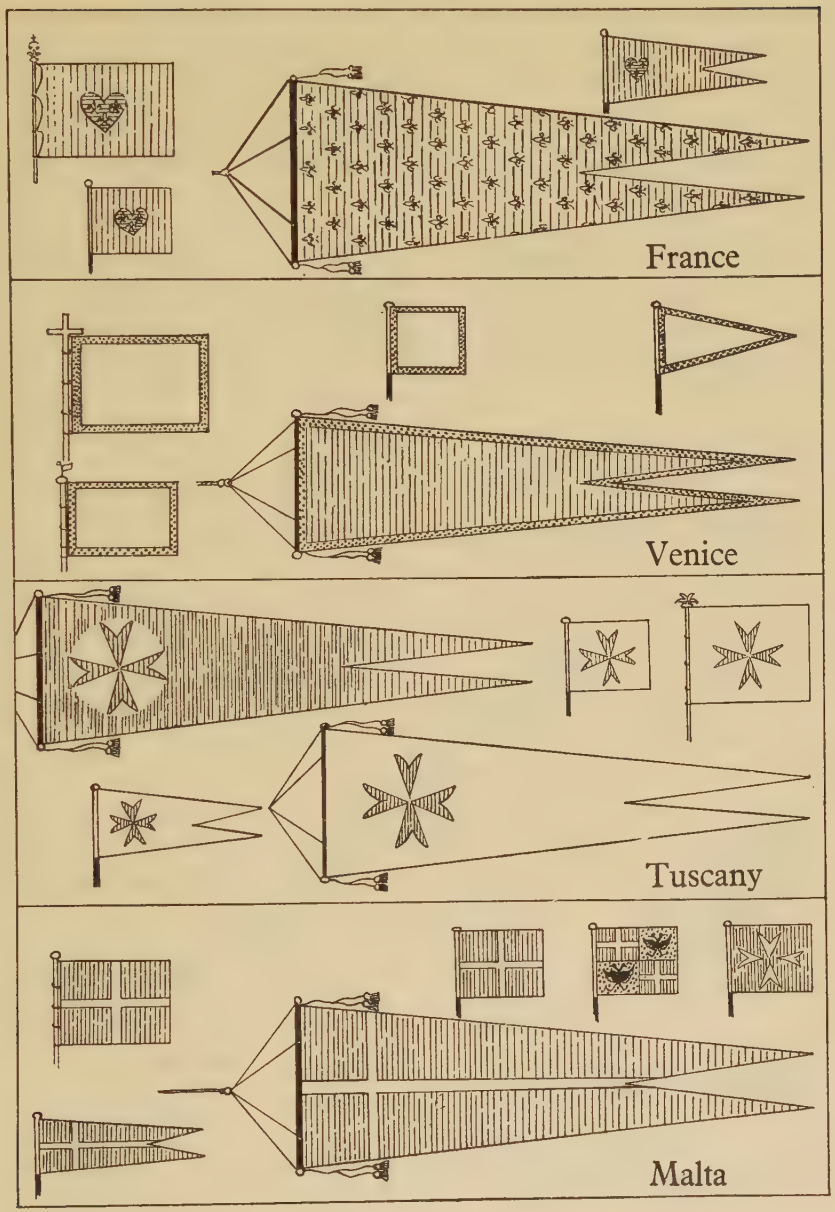


Fig. 1

length given, 9 ft. 2 in., it is probable that they were slightly larger than the secondary guns of the French or Tuscans.

Falkengréen gives us coloured drawings of the flags used in the four services and these are of interest as differing widely from those shown by

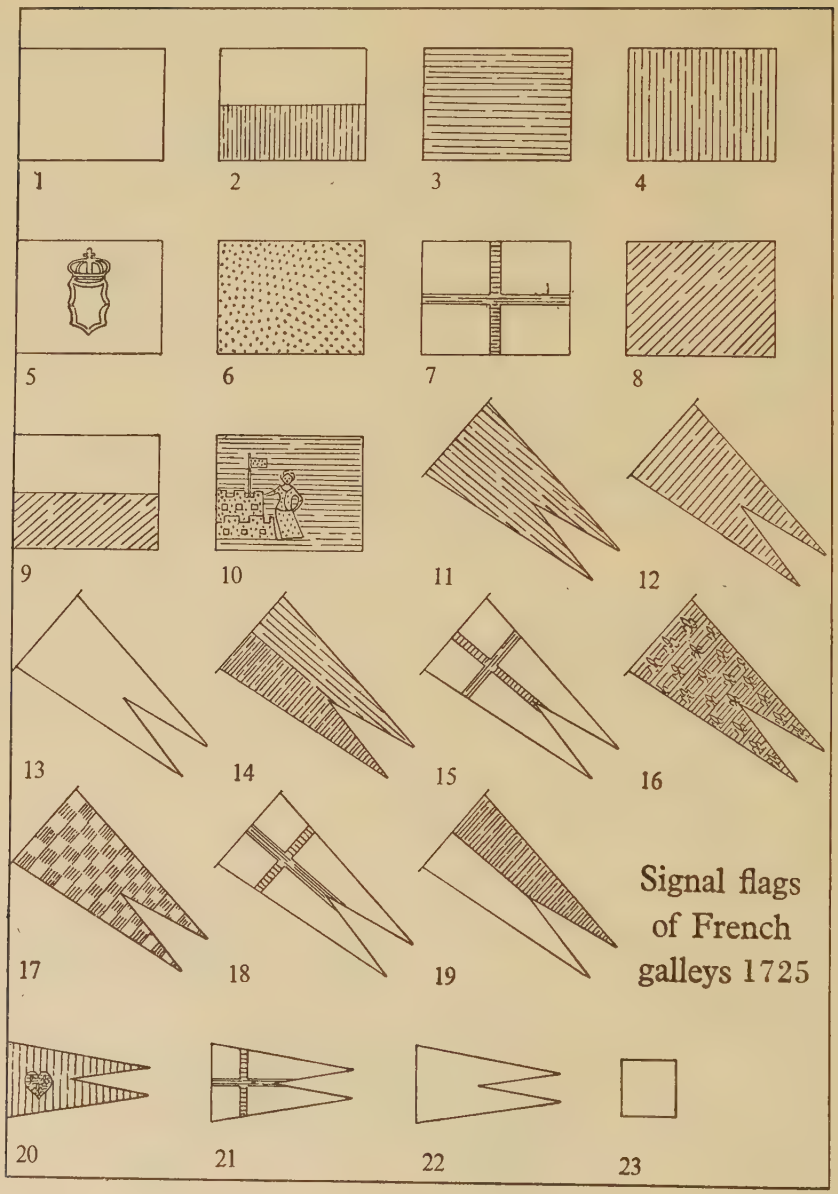


Fig. 2

Allard at much the same date. Galleys carried flags of four kinds; there was what Falkengréen calls 'l'Estandard' or 'Standardo', the 'Bandiera Quadra' or 'Square Flag', the 'Gagliardo' and the 'Flamme' or 'Fiamma'. These last were very large swallow-tailed pennants of which flagships

carried four, one at each masthead and one at each peak. The French sizes ranged from 57 to 32 ft. in length, two having a width of about one-third of their length and two much narrower; I think the wider pennants were flown at the peak. The 'standard' perhaps corresponded to an Admiral's flag and the 'Square Flag' to an ensign, but I am not at all clear about the 'Gagliardo', which was a smaller pennant. It may have been more or less equivalent to a jack, but I do not know where it was flown.

Venice had another flag which Falkengréen calls the 'Gonfalon given by Pope Alexander III in 1178'. This was similar to the Standard, but larger, and was carried on a flagstaff in the form of a cross. Tuscany used two different kinds of 'Fiamma', that 'of the Knights' (of St Stephen) and of the 'Ordinary'. At Malta there were three different 'Square Flags', one a mere diminutive of the Standard, one called the 'Magistrale' having the Arms of the Grand Master quartered with the Standard, and one 'of the Knights' showing the well-known Maltese cross.

Besides these drawings of ensigns and flags of command used in the four services Falkengréen shows the signal flags used by the French with their meanings when hoisted in various positions. He also gives the Sailing and Fighting Orders used in connexion with these signals. These consist of eighty-one paragraphs classified under four headings: Signals by Day, In thick Weather, Signals by Night, and Fighting Signals; and form a sort of cross-index to the table of flags, with rather fuller explanations of their meanings. The interest of this part of Falkengréen's report is that it shows just how much control the commander of a galley-fleet could exercise by means of signals only and the contingencies for which it was thought most useful to provide (Table 2).

Table 2

Flag	Where shown	Meaning
1	Forecastle	Reef the foresail
	Steerage	Fetch water
	Ashore	Sail in sight
	Signal halliards	Fleet turn to starboard
2	Mainmast head	Land soldiers and grenadiers
	Foremast head	Land half squadron soldiers
	Ashore	Suspicious sail in sight
3	Steerage	Change round sails
	Forecastle	Set storm-foresail
	Awning	Tow
	Arguzin's thwart	Free prisoners' hands
4	Mainmast head	Land grenadiers
	Foremast head	Land soldiers
	Fore peak	Land half squadron of both
	Arguzin's thwart	Free prisoners for exercise
	Signal halliards	Fleet turn to port

Table 2 (*continued*)

Flag	Where shown	Meaning
5	Flag-staff	Begin action
6	Steerage	Line ahead
7	Flag-staff	Council of War
8	Steerage	Fetch wood
9	Steerage	Fetch wood and water
10	Fore peak	Guns to be got ready
	Foremast head	Load single or double
11	Mainmast head	Second squadron to chase
	Signal halliards	Permission to go ashore
	Flag-staff	Council for Captains
12	Mainmast head	Sail (or sails) in sight
	Foremast head	Land in sight
	Main peak (foresail brailed)	Recognition signal—reply
	Flag-staff	Give wine to rowers
	Main peak	General stations
13	Main peak	Chase
	Fore peak	Send boats to flagship (see no. 20)
	Signal halliards	Go alongside (?)
14	Mainmast head	Half fleet to chase
	Signal halliards	Second squadron alter course
	Flag-staff	Council for Captains and Lieutenants
15	Flag-staff	Make more sail
	Mainmast head	Prepare to board
16	Main peak	Line of battle (see no. 23)
17	Main peak	Arm boats
	Signal halliards	Third squadron alter course
	Fore peak	Embark at once
18	Main peak (fore-yard lowered)	Break off chase
19	Signal halliards	Both wings alter course
	Foremast head	Wish to speak the flagship
	Main peak (fore-yard lowered)	Recognition signal—challenge
	Foremast head	Third squadron to chase
	Mainmast head	Sail (lateen) in sight
20	Steerage	Cut cables
	Mainmast or foremast head	Need help
	Mainmast head	Must bear up
	Forecastle (3 or 4)	Let go several anchors
	Abreast of mainmast	Take cables ashore
	Forecastle (with white pennant)	Send boats to flagship
21	Steerage	Send for orders
22	Forecastle	Raise bulwarks
	Abaft forecastle	Make bastions
23	Main peak	Line of battle (see no. 16)

This table needs a few remarks by way of explanation. 'Signal halliards' is, I hope, a correct translation of 'Sein linan', but leaves us in doubt as to where the flag actually flew, since the two mastheads and the peaks of the two yards are already accounted for. In one case, that of Flag no. 13, the table gives 'sein linan', whereas the corresponding paragraph in the Orders (no. 71) has 'andrivellen'. This is a French name for the 'crane-line' to the main top, shown in many representations of galleys and certainly providing a convenient hoist for a signal-flag. In this context I have given 'go alongside' as a translation of 'abbordera'; it might equally well mean 'board' in a hostile sense, but the writer uses 'äntring' for this under Flag no. 15 and Order no. 70. The 'steerage' (in Swedish 'styrplichten') must, I think, mean the after end of the poop. The 'Arguzin' (French 'Argousin') was the Master-at-Arms and his station seems to have been at or about the sixth thwart counting from the stern. Presumably a flag here would have to be displayed on a staff.

SOME CHRONICLES OF THE LARKINS FAMILY

THE LOSS OF THE *WARREN HASTINGS*, 1806

By E. W. Bovill, F.S.A.

THE *Warren Hastings* sailed from Portsmouth on her second voyage on 17 February 1805,[1] again bound for China, and still commanded by Captain Thomas Larkins. She had to sail without escort, and in anticipation of this and with the narrowness of her escape from Admiral Linois fresh in mind, her managing owner, J. P. Larkins, obtained permission from the Court of Directors to strengthen her armament.[2] James records that 'extraordinary pains had been taken in the equipment of this ship'.

She sailed mounting 44 guns and with a complement of 196 men and boys. She mounted 26 medium 18-pounders on her main or lower deck, 14 carronades (18-pounders) on her upper deck, and four carronades (12-pounders) on her poop. James, who describes her armament in great detail, says that 'the carronades of the *Warren Hastings* were mounted upon a carriage resembling Gover's in every particular but the only essential one, the having of rollers adapted to a groove in the slide.[3] The consequence of this silly evasion of an ingenious man's patent was, that the whole of the ship's quarter-deck and poop guns became utterly useless after only a few rounds had been fired from them.'

The *Warren Hastings*'s outward voyage to China was uneventful. She sailed from Canton on her homeward voyage on 31 March 1806, in company with three other Indiamen, the *Dorsetshire*, the *Surat Castle* and the *Ganges*. They do not appear to have started with an escort, no doubt on account of the heavy demands then being made on the British Navy, but later they came under convoy of H.M.S. *Sir Edward Hughes*.[4] She was

1 She had previously had a slight collision in The Downs with the H.C.S. *Earl of Abergavenny*, commanded by Captain John Wordsworth.

2 *Court Minutes*, 26 September 1804.

3 James, Vol. IV, p. 239. These gun mountings were not part of her new equipment. They had been fitted at the time of building.

4 A former East Indiaman purchased for the Royal Navy in 1806 for £35,000 and fitted as a frigate. By an Admiralty Order of 28 November 1807 she was registered as a storeship and renamed *Tortoise*. (Deputy Librarian of the Admiralty, in a letter to the author.)

perhaps awaiting them at Penang, for on 9 June, two days after leaving that port, she parted to convoy the *Ganges*, which had become 'rather leaky', to Bombay. The loss of their escort must have caused concern to the remaining three Indiamen, for the voyage across the Indian Ocean, where they were most likely to encounter French men-of-war, had only just begun. But some time between 9 and 21 June a worse accident befell the *Warren Hastings*. In circumstances, for which no blame was attached to her commander, she became separated from the *Dorsetshire* and *Surat Castle*, and was thus placed in a situation of great peril.[1] She was in waters regularly patrolled by French men-of-war in search of lone merchantmen such as she had now become.

Unfortunately, the *Warren Hastings* was not quite so strongly armed as on her outward voyage. Like other commanders of Indiamen, Captain Thomas Larkins had been tempted, or possibly compelled, to sacrifice armament to cargo. Four of his ship's main deck ports had been caulked up to provide additional cargo space, and four guns had been stored in the hold. The 40 Chinese members of her crew had decided to remain behind in Canton and 18 of her English seamen had been 'pressed' by a British man-of-war. As the result of this serious reduction in her crew, four of her 18-pounder carronades had also been removed to her hold. When she sailed from Canton, therefore, she mounted only 36 guns and had a crew of only 138 men and boys.

The *Warren Hastings*'s course was well to the south of the French base at the Île de France, but even these distant waters were not safe from the vigilance of the enemy. What followed is best described in the report made by her young commander to the Court of Directors.

> At half-past seven a.m. the 21st of June, 1806, we descried a strange sail to the S.W. standing to the S. Eastward, apparently a long, but low vessel, under treble reefed topsails and courses. I continued my course, making as much sail as the wind would permit of my carrying, steering at that time W. by S. with a very strong breeze from N.E. by E., and a large sea on. About nine a.m. having gained our quarter, she tacked and stood towards us, letting out the reefs of her topsails. I lost no time in clearing the ship for action, and placed everything in a proper state for defence. About half-past nine a.m. she set her top-gallant sails, main and foretop-mast steering sails, though apparently gaining on us before, and at ten a.m. showed a blue ensign and pendant. I did not like her manner of manoeuvering, being sensible that an English man-of-war would not have acted as she did; however, I hoisted my colours, and made the private signal. At eleven a.m., finding she was gaining upon us fast, I took in all the steering-sails, stay-sails, and hauled the mainsail up, that I might have nothing to draw the attention of my crew from their quarter, save the principal sails for manoeuvering, and hauled up a point to the wind. Having made every internal disposition for defending the ship, rove preventer braces, and stopped the topsail sheets; at half-past eleven I hauled down the private signal, it not having been answered, and placed every soul at their respective stations, to await the coming up of the enemy (for now it could no longer remain a

1 *C.M.* 7 January 1807.

matter of doubt), which she was doing very fast. At noon she was within about a mile and a half of us, when she took in her topmast steering-sails, stay-sails, and mainsail, and having neared us to a mile, hauled down the blue ensign,[1] and hoisted French colours; this was what we expected, and were prepared and ready to meet and return her fire.

The enemy proved to be the *Piémontaise*, Captain Jacques Éperon, a very powerful and exceptionally fast French frigate, only recently launched and newly arrived from St Malo.

James describes her armament as follows:

Her maindeck guns were the customary 28 long 18-pounders; and on the quarterdeck and forecastle she mounted 10 iron, and two brass, 36-pounder carronades, two long French 8-pounders, and four long English 9-pounders. These had belonged to the British frigate *Jason*, having been thrown overboard by her when she grounded off Pointe de la Trenche at the capture of the Seine in June, 1798.

Exclusive of her 46 carriage-guns, the *Piémontaise* carried swivels and musketoons in her tops and along her gunwales. In other respects, also, this French frigate was equipped in an extraordinary manner. On each fore and main yard-arm was fixed a tripod, calculated to contain a shell weighing 5 cwt. In the event of the ships getting close alongside each other, the shell, having been previously placed on the tripod, was to have its fusee lighted by a man lying out on the yard with a match in his hand: it was then to be thrown from the tripod, and, falling upon the other ship's deck, would, from its weight, pass through to the deck below. Here its explosion would scatter destruction all around; and, in the midst of the confusion, the Frenchmen were to rush on board. These, again, were armed more like assassins than men-of-war's men; each having, besides the usual boarding weapons, a poniard stuck through the button-holes of his jacket.[2]

During the ensuing engagement there were, according to Larkins, 'in her tops fifty men with swivels and rifles'. She carried a crew of no less than 385 men and boys.

We can now continue with Captain Larkins's account of his encounter with his formidable assailant:

About twenty minutes past noon, she opened a fire upon our larboard quarter with a very heavy round, mostly exceeding large grape, which we returned, as soon as our guns could bear, pretty warmly, and after about a quarter of an hour's engagement, she filled and went a-head, seemingly astonished at her reception. In this we received some damage in our rigging, which we turned to and repaired as well as we could. After she had reached about a mile and a half a-head she tacked and came down on us again, while we were at the guns to receive her as before. This onset was extremely warm and brisk, and attended with loss on our side of killed and wounded; and so near were the two ships, that I was very apprehensive of our locking yard-arms; again she sheared off, and made sail astern. Our damage was great; the foremast was shot clear through about one-third from its head; every larboard and four of the starboard fore shrouds cut; four topsail tye gone, and mizen topsail haulyards, main and main-topsail braces, main spring stay, and topmast standing one shot away; our ensign was likewise cut away, but very soon displayed again at the main-top-gallant mast head.

Scarcely had we time to slopper the shrouds, and reeve preventer braces, before our attention was again called to receive her third attack, she having put about in our wake, and was nearly up.

1 To fly the enemy's ensign was a perfectly legitimate *ruse de guerre* and still is. For its use by the Royal Navy in the Second World War see Viscount Cunningham, *A Sailor's Odyssey*, 1951, p. 525.

2 James, Vol. IV, p. 240.

This attack was as warm and as near almost as any, and continued rather longer than the former, but as before she shot a-head, indicating most evidently that she could not lay alongside us, though to all appearance a heavy vessel. We now endeavoured to replace our damage as well as time would permit: I furled the top-gallant sails, and hauled the foresail up, for the foremast had received another shot in its aft side, about one-third up, which now rendered the state of the mast extremely dangerous, and which obliged me likewise to keep the fore-topsail on the cap, dreading to make sail upon the mast from the freshness of the breeze, and the height of the sea. Hardly had we got the yard tackle down as preventer braces, before we were again called upon by her near approach (she having manoeuvred a-head as before), to repel her fourth attack.

We gave her the first gun this time, and the action became on both sides extremely warm, and seemingly with increased fury; but as she had done before, she made sail astern, having endeavoured to lay alongside four times without being able to accomplish her end. I had now only the main-topsail standing untouched, and defying their worst, but otherwise a most complete wreck aloft. The mainmast shot through the main piece very badly; mizen topsail split in two; nearly all the fore rigging again cut; but thank God, below we were as firm and as zealous in the cause as at the firing of the first gun, having nothing to lament, save the very great superiority of the enemy's ship's sailing, which enabled her to take her position to advantage, and attack at what point she pleased; for as yet we had not the smallest idea of giving her any other superiority.

We had now to receive the enemy a fifth time, with the main and foremast dangerously wounded, every larboard and four of the starboard fore shrouds cut, with some of the main ones; not a single brace rove, the yards being kept forward with the force of the wind, with scarcely a running rope whole, and with two of my upper deck guns disabled. Still, so completely wrecked aloft, I looked to the energy remaining below as the palladium of our safety. It is true we had been weakened by five men killed, and about as many wounded; yet so noble, so enthusiastic a spirit pervaded the crew, that I thought little of the loss or damage sustained. In this state and under these circumstances we received her fifth attack, and on both sides it was more furious than before, and the firing kept up almost incessant. Seeing, as I suppose, they must have done, that I could do nothing but keep the wind with the sail I had set (only the main topsail), they backed on my larboard quarter, and kept there without my being able to prevent her taking so advantageous a position.

Here she made great havoc and destruction; the mizen-mast, before unhurt, was shot through about ten feet from the deck in three places, within six inches of each other, and I perceived that the fate of that mast was very soon to fall, as it suffered greatly; the driver-boom was knocked into splinters; all the coops on the poop were shattered; only one man remaining at the poop carronade; the after quarter-deck gun and foremast one cleared to one man also. However, with our every disadvantage, damage, and loss of men (for every one man from so comparative small a number, is missed on these occasions, and we had by this seven men killed and about ten wounded) I had not the most distant idea of giving up so valuable a ship while the smallest possible chance remained of defending her. But another disaster awaited us, which decided the fate of the day—the mizen-mast fell forward, and blocked up every effective gun on the upper deck. The gun-room was on fire from a shot that had entered by the counter, but which was at length put out by the exertions of my officers and men: my surgeon had lost every instrument, by a shot that came into the place where he was amputating and dressing the wounded: the nail of the tiller rope on the barrel of the wheel drew, and the main and main top-sail yard came square, by the fall of the mizen-mast: thus circumstanced, I foresaw that we had no alternative but to strike, and, with the consent of my Officers, I gave up what remained of the *Warren Hastings* and her noble crew, which took place about fifty minutes past four p.m. having been engaged nearly yard-arm and yard-arm above two-thirds of the time, from twenty minutes past noon, until ten minutes before five p.m.

I feel it a duty extremely incumbent on me, to mention the firm and steady support I received from the officers with whom I had the honour of defending the ship; nor could more zeal or true courage have been displayed, than what animated the gallant crew under my command. It will be a recollection attended with the most heartfelt satisfaction to me, that every department was filled with its utmost energy. The exertions visible on this occasion to defend the Hon. Company's property to that point of contention, when defence would have been no longer practicable nor

justifiable, will, I trust, be a sufficient recommendation of the merits of the officers and ship's company of the late Hon. Company's ship *Warren Hastings*, to the Hon. the Court of Directors. And although the issue of the engagement was unfortunate, still, when the very superior force to which we were opposed, added to other material advantages on the side of the enemy, are taken into consideration, it will, I hope, appear very evident, that they did as much as men could do under similar circumstances.

Up to this point the *Warren Hastings* had lost seven men killed, including her purser, and thirteen wounded, of whom four were officers. The *Piémontaise* had seven men killed and five badly wounded.

The comparative force of the two vessels was as follows:

	Warren Hastings	*Piémontaise*
Broadside guns (no.)	18	23
Broadside guns (lb.)	312	533
Crew (no.)	138	385
Size (tons)	1356	1093

James commented on this table:

An action between a merchant vessel and a ship of war requires, in order fairly to show the relative force of the parties, some further explanation than a mere statement of figures can afford. The chief purpose of the one ship being to carry a cargo, her armament is made a secondary consideration; whereas, the sole object of the other is to fight: accordingly, no pains are spared to render the former, both in *matériel* and *personnel*, fully adequate to the duties of her station. This comparison of the man of war with the merchantman applies to common cases. But, by some mismanagement on the part of her equippers, the *Warren Hastings* could make very little use of her upperdeck and poop batteries, after the second or third round of shot, and, for want of hands, man only eight, out of the 11 guns on her lowerdeck battery; while the *Piémontaise*, as has already been shown, was armed in a manner every way calculated for causing destruction to an adversary, and for bringing the combat, even with a regular frigate like herself, to a favourable issue.

'Under these circumstances, the defence made by the *Warren Hastings*, protracted as it was to four hours and a half, displayed a highly commendable zeal and perseverance on the part of Captain Larkins, his officers, and ship's company; but, with all their gallant efforts, the latter could never have succeeded in capturing, although, had the ship's guns been in an effective state, they might, in beating off, an antagonist so well armed, manned, and appointed as the *Piémontaise*.'[1]

The story of the loss of the *Warren Hastings* does not end with Captain Thomas Larkins's decision to strike to the *Piémontaise*. Scenes followed which would, again to quote James, 'have better become an Algerine cruiser, or a Malay pirate, than a French national ship of war'. The only reference to these scenes in Thomas Larkins's official despatch is the inclusion in the list of casualties of the names of five members of the crew, including himself and three other officers, as having been 'stabbed after possession was taken'. He subsequently published the full story.[2]

1 James, Vol. IV, p. 242.

2 *A Statement of Facts that transpired subsequent to the Honourable East India Company's ship Warren Hastings striking to the French Frigate, La Piémontaise*, by Captain Thomas Larkins, Commander. London, 1807.

Its bitterness is in marked contrast with the calm dignity of his official despatch to the Court of Directors.

The very disabled situation [he wrote] of the Honourable Company's ship, *Warren Hastings*, at the period of her being obliged to strike to her antagonist, has already been described in my before-mentioned letter....

In this situation, and to windward of the French frigate, which ship was under her three topsails, with the mizen one aback, and the main one shivering, the Honourable Company's ship, totally ungovernable, fell off with the force of the sea, and the French frigate, to avoid being run foul of, bore up. This evolution consequently filled the *Piémontaise*'s main topsail, which being disregarded by her officers, as well as the helm not being attended to, shot her almost instantaneously on the larboard bow of the Honourable Company's ship, *Warren Hastings*, by which the two ships got entangled, fell alongside each other, and soon produced a crash extremely awful and alarming to the minds of those who were able to judge of the consequences that were liable to result fron the actual contact of two large vessels in such a situation, and under the influence of so high a sea....

Enraged at this act, which was likely to prove of extreme serious consequences both to the French frigate and her prize, they, to exonerate themselves from the reflection of having been guilty of so unseamanlike a manoeuvre, breathed out sanguinary vengeance against the commander of the prize, for having (as they exclaimed) purposely run on board the French frigate, to complete the damage which he was not able to effect during the action. Under this unwarrantable conclusion, and furiously maddened by liquor, on board rushed a number of Frenchmen, while the two ships were alongside each other, to secure the prize. At this juncture, I was upon the quarterdeck, where I deemed it my duty to remain, ready to receive the officer of the French frigate, who might be sent on board to take charge, and to deliver my sword, an etiquette which I had presumed was always required to be gone through when any ship falls after an action. In order also to guard against any evil consequence which was even probable or possible to result, should I be seen in an armed position with my sword in hand, I laid it upon the capstan, and remained close to it. Such was my position when these men came on board.

Five, armed with poignards, cutlasses, pikes, pistols, tomahawks, and muskets, rushed aft on the quarterdeck, and made up to me; when, after various blows, and the most horrid imprecations against me that mouths could utter, for attempting to run the French frigate down after I had *dared* to fight her so long, they drove me into the balcony, where I was soon joined by Mr John Wood, my second officer, and Mr William Charles Dunn, an acting midshipman. These ruffians... very shortly followed us, still execrating me with the bitterest reproaches, and drove me into an interior cabin, leading out of the balcony, which I concluded had been picked out as the place for a general assassination of the officers.... Had there been room sufficient, and the Frenchmen not in each other's way, I make not the smallest hesitation to aver, that I should have suffered instantaneous death, for several weapons were uplifted against my life, which only fell short of the intention of the murderer by their not being long enough to reach me.... Recollecting the errand on which they were sent, one of them, catching hold of me by the collar of my coat, told me that I must go on board the frigate. With this fellow I left the cabin, while all the way he dragged me, and threatening at every step to take my life, for which purpose, I suppose, he stopped several times, but proceeded on again as often without carrying his bloody menaces into execution. On reaching the quarter-deck...my attention wholly engrossed by the conduct of the ruffian into whose hands I had fallen, I was most forcibly awakened from my horrid state of thought by receiving a wound in my right side inflicted with a poignard, and by the hand of a person whom I had never seen. I...looked round to see who the assassin was, who had thus, *behind my back, and I defenceless*, moreover, to whom I had surrendered myself a prisoner of war by the act of striking, attempted to take my life, and to my inconceivable astonishment perceived that this murderer had two epaulets on his coat, and, as I very soon afterwards learned, was the *Capitaine-en-second* of the French frigate, sent on board to secure the prize....

This officer's name is Charles Moreau, a name belonging to a person who should be held up to

the world as having disgraced the cause of humanity, the character of a man, the situation of an officer, and the honour of a civilized nation....

My loss of blood soon became great.... My inhuman conductor had now dragged me as far forward as the foremast when...he told me to jump on board the frigate. I was in no state to acquiesce with his furious order; besides the two ships were rolling very heavy and making such havoc with each other that, had I even been perfectly in health and my mind in a proper state to reflect and to allow of my seeing things through a right medium, the attempt to gain the French frigate, under the then existing circumstances, would most probably have been attended with consequences of the most serious nature.

I had recollection enough remaining to perceive the extreme danger to which I must be exposed in endeavouring to obey his order. I began to expostulate with him on the impracticability of doing it—to which he replied (at the same time lifting up his cutlass) by saying if I did not that instant go on board the frigate he would cleave my head in two. As death seemed to beset me on every side, I thought it was better to take my chance than to remain and be butchered where I was. Therefore, faint as I was with loss of blood, without being allowed time to take advantage of the two ships rolling towards each other, forward I threw myself for the fore channels of the French frigate, which ship was then in the act of rolling from the *Warren Hastings*. I fell as near as could be on a poise over the outer edge of the channel, without strength sufficient remaining to extricate myself from a situation so perilous that beyond any doubt I should have fallen between the two ships, on the returning roll of the French frigate, had not a young man of the name of Baudin, an acting lieutenant, extended his arm to save me from destruction and who suceeded in getting me on board the *Piémontaise*; nor ought I to omit recording what he said at the moment, for it was a speech which I hope not to be accused of vanity for repeating, did credit to his feeling as a man and to his courage as an officer: 'Capitaine vous êtes un brave homme, venez avec moi...'.

He led me aft upon the French frigate's quarter deck, whence he very soon proceeded with me to the cockpit, that the surgeon might dress my wound. I had no sooner reached the place than I fainted away from the great quantity of blood which I had lost; when I recovered from the fainting I found that my wound had been dressed, and myself lying on a seaman's chest....

In this situation, laying on a chest in an excessive hot and close place, and the French frigate rolling very deep, while every roll was like a poignard to my wound, I should have remained, had not the interfering humanity of the French commissary, Monsieur Cluet, prevented it by giving me his cot and having me carried into the wardroom and hung up therein....

I had repeatedly requested to see and speak to the French captain, for as yet I had not the least knowledge who he was or whether he was alive or dead, as in passing along the upper deck not the smallest trace, in regard to distinction of dress, could lead me to know one man from another.

At length, by entreaties, I succeeded. This interview I had sought for with some eagerness, and intended it with the view to undeceive him in the most false and unfounded report that was propagated against me, that of having on purpose run on board the French frigate, but which, with my every declaration of word and honour, I was not able to effect, neither was it without repeated solicitations that I could persuade him to give me his hand.

I have now to relate circumstances that transpired after my having been driven on board the French frigate, which, in their nature, were as atrocious as any that had taken place previous to that event. This continued narrative of particulars from the time of my leaving the Honourable Company's Ship, *Warren Hastings*, I am enabled to carry on from the individual personal information of my officers, midshipmen and petty officers, who were eye-witnesses to the several transactions which I am about to describe....

This Moreau...was most thoroughly incapacitated from either the performance of a generous disposition as a man, or of his duty as an officer or a seaman, for he was as furiously intoxicated as the lowest, vilest wretch, who followed and abetted him in his murderous and bloodthirsty intentions. His myrmidons, spread about the ship, were reviling and treating in the most shameful and inhuman manner all who could not escape from their fury, while this officer, having the whole of the upper deck to himself, was vaunting about with all the emptiness of self-sufficiency, and, in the paroxysms of inebriation, was driving his poignards (having one in each hand) into every

inoffensive thing that happened to lay in his way, such as the capstan, the fallen mizen-mast, the coamings of the after-hatchway etc., presuming as may very properly be concluded, that these objects of his indignation had not the power to return the insults, or, that the fumes of liquor had so very forcibly overcome his eyesight that he did not know what he was doing. However, I am sensibly led to the former conclusion, drawing the inference from his conduct towards me—a fallen, defenceless enemy.

While this was acting above, his creatures were far from being idle below. Mr John Wood, my second officer, after having been pierced through the finger to save being run through the body, and the upper part of one of his arms laid open by a stroke of a sabre, during his stay on the balcony, being forced below on the gun deck among the other officers, was driven with the rest into the cabins at the after part of the steerage....

In consequence of there being no other nor a better place, these cabins were appropriated to the use of the surgeon and his co-adjutor as a place for the wounded, and at the time of which I am now making mention, wherein several men were lying, some with their wounds dressed, and others waiting their turn.

The crowd, now forced in by these unfeeling and blood-breathing ruffians, put a stop to the assisting hand of the surgeon and arrested him in the midst of an amputation from the non-performance of which at an early period, a fellow being's life was sacrificed at the shrine of inhumanity and of uncivilised brutality.... Other poor suffering creatures, bleeding and smarting in the cause, in which they had so nobly defended, were unavoidably trampled underfoot like so many logs of wood or other inanimate objects.... They actually ran a cutlass through the arm of the surgeon because he ventured, hoping they would not notice it, to continue his operation....

I shall merely give one more instance of a character which everybody must detest, to convince those who may be induced to conclude that I have been actuated by malice. A young man, one of my midshipmen, named James Boyton, who hearing everything tranquil on deck, had ventured to go up to his chest, which was placed under the half-deck by the cuddy door, to secure a few clothes to take with him on board the French frigate, being perceived by this Moreau was immediately attacked by him behind his back, and wounded in seven different places in the two arms, before he could escape from the unjust and unprovoked vengeance of this madman....

Penned up in the cabins below, the officers and several others remained for above an hour, when they were called to come upon deck to be sent on board the French frigate in a small boat, not more than eighteen feet in length, having a crew of a midshipman, a coxswain, and six men, and leaking so badly as scarcely to be kept afloat, were twenty prisoners put, with a very ugly sea running. Thus situated, they put off from alongside the prize, the French frigate about 2 miles distant, and it was dark before they had proceeded half way. With the greatest possible difficulty the boat reached the *Piémontaise*, when a scene of confusion ensued, which was nearly fatal to the lives of all in her.

By the time she had got alongside, the boat was knee-deep in water, and the French frigate rolling very heavily endangered the sinking of the boat, as her guns actually struck it every time she rolled. The people in the boat, to save themselves from impending destruction, had recourse to the various ropes hanging down over the channels and side, the major part of which being slack, had again nearly plunged them into eternity.

Now let us return to the prize, which by this time was exhibiting a scene of the most shameful confusion ever witnessed in such situations, and totally disgraceful to that subordination which ought to exist under a regular officer belonging to a regular navy, and of which the commander of a privateer would have been ashamed nor have permitted to have taken place under the immediate eye and knowledge of an officer subordinate to him.

After the principal part of the prisoners had been disposed of on board the French frigate, and a party of Frenchmen sent on board the prize, a general search was immediately commenced by the seamen, both English and French, who indiscriminately plundered every cabin, chest, trunk, locker etc., where any possibility appeared of spirits, wine, etc., being stowed therein, and, by a very free and liberal use of what they found they soon became most shockingly intoxicated.

The effects of this debauuch proved to be that, the liquor drowning the reflection of what had passed, and the English seamen, forgetting they were prisoners of war, seeing the French armed, thought that they had as much right to have weapons as the other party. A right for superiority soon became a matter of dispute, when a general action commenced on the gun deck of the Honourable Company's late ship, *Warren Hastings*, which most fortunately produced no other serious consequences than the wounding of one of the English seamen, and that slightly, though several pistols were fired.

About 2 o'clock in the morning, either tired of fighting or overcome by liquor, every man was fast asleep and tranquility restored.... It was not till ten o'clock in the morning of the day subsequent to the action, that they turned their thoughts either to secure the main mast, to clear away the wreck of the mizen mast which nearly blocked up the whole of the quarter deck, even to throw overboard the bodies of those poor fellows who had fallen in the action, or to wash the bloodstained planks....

The steerage exhibited a rueful collection of nankeens, silk handkerchiefs, ready-made linen, shoes, boots, china-ware, sugar-candy, sweetmeats—in short, a general assortment of every article that was to be found either in the officer's cabins or the St Helena storeroom, all of which had been forced open and their contents thus distributed about in a sad and melancholy devastation....

The lack of discipline among the crew of the *Piémontaise* seems to have been typical of the French warships in the East at this time. A few months before the loss of the *Warren Hastings*, a British prisoner-of-war in the *Marengo* recorded what he saw of French discipline in that ship. 'There does not appear', he wrote 'to be the least order or discipline amongst their people: all are equal, and each man seems equally conscious of his own superiority; and such is the sad state and condition of the *Marengo*, that I may safely affirm, she floats upon the sea as a hulk of insubordination, filthiness and folly.'[1]

Larkins, after describing in some detail the systematic looting of the *Warren Hastings*, which continued for some days, proceeds:

I shall now quit all further mention of the French frigate, *La Piémontaise*, as well of those belonging to her, for scenes more pleasant, and conduct far more honourable to the character of the French nation.

On the fourteenth day after our capture, viz. on the 4th day of July, 1806, we anchored in Grand Port, Isle of France, and on the 7th of the same month were disembarked.... The seamen were marched to a military post, called the post of Flacq, and myself and officers were distributed about at houses of the principal inhabitants in the environs, where we were received in the most cordial and hospitable manner possible.[2]

Their stay in Mauritius was brief. Larkins's request for permission for his officers and crew to proceed to England via America in a neutral vessel was at once granted, and on 6 August they sailed in the American ship *America* of 285 tons. Meanwhile, the kindly treatment they had received

1 *East India Co. Records, Marine Misallaneous*, Vol. 534, p. 3602.

2 The Commission des Prises of Mauritius declared the *Warren Hastings* 'de bonne prise', and she and her cargo were sold for 1,941,486 francs. After the rights of the local treasury had been satisfied and costs paid there remained a sum of 1,205,262 francs to be shared among the captors. (A. Toussaint, Chief Archivist of Mauritius in a letter to the author.)

on the island from the French inhabitants had to some extent made up for the brutality of the crew of the *Piémontaise*.

> Let me now return [wrote Larkins] and pay a short but indispensible tribute of gratitude to those conspicuously generous characters, resident at Flacq, a district situated on the south-east part of the Isle of France, whose kind intentions and honourable endeavours to relieve the weight of our misfortunes, and to pour the balm of consolation into our minds, must ever remain indelibly engrafted in our hearts and firmly imprinted on our memories, and while honour is a distinguishing characteristic of a man, and hospitality a leading feature of the human heart, the names of Belzim, Gronderville, Rével, Dupelaux's and some others, must be exalted to admiration, and claim a place in the estimation of every honest man....

The execrable Moreau's conduct eventually cost him his life. Sir Edward Pellew, the naval commander-in-chief in the East Indies, issued an order to every commander in his fleet that if ever the *Piémontaise* should be captured her capitaine-en-second was to be sent a close prisoner to the flagship. The admiral's bitter resentment at the treatment which the gallant Larkins had received at the hands of Moreau appears to have been shared by every man in his command who one and all, it is recorded, with obvious exaggeration, vowed that if ever he fell into their hands they would butcher him. They had not very many months to wait. Early in March 1808, the *Piémontaise*, still commanded by Captain Éperon and with Moreau as his second-in-command, was intercepted off Cape Comorin by the *San Fiorenzo*, an English 36-gun frigate commanded by Captain Nicholas Hardinge, a young but already distinguished commander. In the ensuing engagement, which lasted three days, the *Piémontaise* used her old tricks. She hoisted a Dutch jack which she afterwards changed to an English ensign and only when she was forced to recognize the superior sailing powers of her opponent did she hoist her proper colours. In the final action the *San Fiorenzo's* gallant commander was killed but at its close the *Piémontaise*, a much more powerful ship, had her rigging and sails cut to pieces, her three masts and bowsprit wounded and a great proportion of her crew made casualties, and she was compelled to haul down her colours.[1] Moreau, who was well aware that if he became a prisoner of the English he could expect no mercy, flung himself overboard and was drowned.[2]

The popular acclamation which this brilliant action justly excited at home prompted an uncle of the dead commander of the *San Fiorenzo* to petition George III for an augmentation of the armorial bearings of the Hardinge family. In doing this he needlessly exaggerated the disparity in the armament of the two ships, and omitted to mention that 200 of the 566

1 There is a water colour drawing of the capture of the *Piémontaise* by the *San Fiorenzo* by Nicholas Pocock and an aquatint in colours by W. J. Bennet after N. Pocock (1809).

2 William Hickey, *Memoirs*, 4 Vols. London, 1941–25, IV, pp. 428–30.

men which he rightly said the *Piémontaise* had on board, were prisoners of war. Nevertheless, his petition was granted.

When Thomas Larkins, together with his officers and crew reached England, the Court of Directors acquitted him 'of all imputation of neglect or misconduct' in respect of the loss of the *Warren Hastings*. They, furthermore, resolved that he be presented with five hundred guineas with which to purchase a piece of plate 'in testimony of the sense the Court entertain of his bravery and good conduct in defence of the late ship *Warren Hastings*'. They also voted a gratuity of about £2000 to the officers, petty officers and seamen of the ship. This was distributed in amounts varying from £150 for the chief officer to £7 each to the seamen, ordinary seamen and servants.[1]

When an Indiaman was lost, whether by act of God or enemy action, the officers and crew lost all pay due to them but also, of course, any capital which they themselves had ventured in private trade. To this crippling financial loss was added on this occasion the heavy cost of repatriating the whole of the ship's company. This was possibly borne in part by the subordinate officers, but most of the burden and probably all of it, must have fallen on Larkins himself. Moreover, he and his officers, must have known that it was uncertain how soon further employment could be offered them.

At thirty years of age, and with a wife and child to support, Larkins was naturally in no position to meet so heavy an obligation, to which a piece of plate was no relief.

When, in March 1807, Larkins and his officers wrote thanking the Directors for the rewards conferred on them, they took the opportunity of suggesting that the heavy expense to which they had been put for passage money, etc., from the time of their capture until their return to England, merited some additional payment. But the Directors were no less tough with their servants than their predecessors, the Committees of two centuries before. They resolved that the request for allowance for the heavy losses sustained by capture and the expenses incurred for passage money 'is not complied with'. In the following May Larkins made a second appeal to the Court, but this too was rejected. In October he asked 'to be placed on the Poplar Fund until he shall again obtain command of a ship'.[2]

The origin of the Poplar Fund can be traced back to the very early days of the Company. The need to make provision for aged and often crippled seamen who had served the Company well had quickly become apparent. In 1626 it had been decided to deduct twopence in the pound from all wages and salaries in order to create a fund for this purpose. A few years later these

1 *C.M.* 31 December 1806.
2 *C.M.* 25 March, 9 April, 20 May, 5 August, 21 October, 1807.

deductions had had to be given up as they were proving too burdensome for the sadly under-paid mariners. In the meanwhile an almshouse had been established in Poplar for the accommodation of the Company's pensioners, and it was from this institution that the Poplar Fund got its name. The Fund was built up from bequests and voluntary subscriptions, but towards the end of the eighteenth century it was drawing its revenue largely, according to Foster, from 'subscriptions of gentlemen on their being elected Directors, by some few other voluntary subscriptions, by a duty of sixpence a gallon upon arrack, 2s per ton upon ships taken into the service, 1½ per cent poundage on the amount of the wages of the commanders, officers and others employed on board them, exceedings of purserage, fines for breach of charterparties, and various other mulcts'.[1] The demands on the Fund had increased with the sources from which it was built up and no man was too senior, if not too proud, to claim relief from it. On more than one occasion it was even used to provide relief for ex-Directors. It is not therefore altogether surprising to find Captain Thomas Larkins asking 'to be placed on the Poplar Fund', but probably he did so only in the hope of shaming the Court into reversing the unfair decision of which he and his officers and men were the victims. The Directors, however, resolved that 'Captain Thomas Larkins. . . does not come within the meaning of the regulations for the admission of Pensioners upon the Poplar Fund.'[2] The claim was then dropped.

Very soon after the Court had decided that no blame attached to anyone for the loss of the *Warren Hastings*, John Pascal Larkins, her managing owner and Thomas's uncle, tendered on behalf of himself and her other owners for a new ship 'in the room of the said ship. . . to be commanded by Capt. Thomas Larkins', and he asked that 'on account of the misfortunes and disappointments of Capt. Larkins the Court will allow the ship to be built for the season 1807–8'.[3] The ship was duly built and accepted by the Company, and she too was named *Warren Hastings*. She sailed early in 1809 from Spithead on her maiden voyage, commanded by Thomas Larkins and carrying the 24th Dragoons with whom was Sergeant John Shipp. The officer commanding the troops on board was so brutal that Larkins had to interfere, protesting 'that he would not have his quarter-deck converted into a slaughterhouse, nor the ladies on board disgusted with the sight of the naked back of a poor screaming soldier, every time they came upon deck'.

When they were approaching the Hooghly, Larkins saw a ship which seemed strikingly familiar, and he requested the pilot to go within hail of

1 Foster, W., *John Company*, London, 1926, p. 169.
2 *C.M.* 11 November 1807. 3 *C.M.* 13 January 1807.

her in order that he might confirm his suspicions. 'All hands were on deck', records John Shipp, 'every eye fixed on the strange ship; and sailors and soldiers manned the rigging. The Captain bellowed out through the large speaking trumpet: "What ship, ahoy?" Answer: "The *Warren Hastings*. What ship are you?" Answer: "The new *Warren Hastings*." Here the shouting of the crews of both ships was quite deafening. Our captain could not say a syllable more (he) was so much affected.'[1] His old ship had been sold by the French to Danish owners, recaptured by the British at Surampore, bought by J. L. Larkins[2] and taken back into the Company's service.

Note. There are four oil paintings of the *Warren Hastings–Piémontaise* action, painted by Thomas Whitcombe to the order of John Pascal Larkins. According to a family tradition there were originally five paintings, one of which was destroyed by fire in 1862 at the Second International Exhibition where the pictures were being exhibited. This was partly confirmed in 1931 when, on removing the inscription blocks from the frames, they were found to be numbered on the back 1, 3, 4 and 5. Other pictures of the the action are a pair of aquatints in colours by and after R. Dodd, and a pair of coloured aquatints by J. Jeakes after T. Whitcombe.

1 John Shipp, *Memoirs*, 2 Vols. London, 1829, 1 p. 244. 2 *C.M.* 14 July 1810.

THE EVOLUTION OF THE VENETIAN GONDOLA[1]

By G. B. Rubin de Cervin

ON 23 September 1661 throngs of Londoners were crowding the embankments to watch the unusual sight of strange Venetian boats being rowed for the first time on the Thames. The Resident of the Republic of St Mark was, in fact, about to present Charles I with two gondolas which had been purposely built and shipped from Venice. There is mention of the event in Pepys's *Diary*,[2] though more ample reports are to be found among the many despatches which the Resident himself, one Francesco Giavarrina, had been rushing to his government.[3]

> It is impossible to express his Majesty's pleasure [he wrote] or how the gondolas were praised by the King, Court and everyone. His Majesty at once got in with the Duke and Duchess of York and another lady of the Court, and also made me enter. Other gentlemen of the palace followed in the second boat. He took a short course on the river, before a great crowd assembled to see them, their richness, grace, and lightness being generally admired with praises for the gondoliers also. He said many times that he had never seen anything finer or more gallant. He charged me expressly to thank your Serenity for the present which he valued greatly. It would really seem that the present of your Serenity stands apart from the many others that have been made by the many other princes. This week he was presented by the States of Holland with a little vessel[4] to sail on the Thames of great beauty, but he is more pleased with the gondolas and he enjoys nothing so much as going on the water.

Thus the two gondolas became quite a popular feature along the river and at one time were sent to Hampton Court 'where both their majesties amuse themselves greatly on the river and other waters that surround the place', wrote Giavarrina in one of his messages,[5] while adding on one other occasion, that the King, on his return to London, 'was met at Chelsi by the Mayor and the bodies of the city in various barques especially prepared for the purpose and accompanied him to Whitehall with a great concourse.

1 The author wishes to acknowledge with appreciation and thanks the co-operative assistance given by all members of the Tramontin Firm.

2 Pepys's *Diary*, Vol. II, p. 102.

3 *Calendar of State Papers and Manuscripts* (Venetian), Vol. XXXII, p. 45, 1659–61, Disp. No. 52.

4 A yacht presented by the Dutch East India Company. Reference also in Pepys, *op. cit.* p. 101.

5 *Cal. S.P., loc. cit.* Disp. No. 200.

The Venetian gondolas, which the king wished to have always beside the royal barge containing himself, the queen and others of the blood royal, made the greatest show and won universal applause.'[1] That was on 7 September 1662, after which date nothing more was heard about them, their ultimate fate being yet unknown; they appear, however, in a print by Stoop,[2] and seem to have been of the standard type which was common in Venice at the time. It so happened that gondolas, though being in that transitional stage which had been evolving since earlier centuries, became by then much patronized by persons of fashion, so that soon others were shipped to France and presented to Louis XIV, to be rowed over 'le grand canal de Versailles',[3] while in 1756 two more reached the Rhine as a present from the Doge Francesco Loredan to the Electorate of Cologne.[4]

The etymology of the name *gondola* is still obscure, and all suggestions which were made in the past tending to demonstrate a Greek or Latin provenance, have given rise to baffling problems still to be solved. Francesco Sansovino[5] (1521–83) was perhaps the first historian who, in dealing with the subject, conceived the hypothesis that this name might be derived either from *concula* or from *kondylion*, the same opinion being expressed later by the French author Du Cange[6] (1610–88). However, the earliest document which mentions the term 'gondola' is to be found in a *privilegium* dated from Rivoalto in 1094 and granted by the Doge Vitale Falier to the inhabitants of the small settlement of Loreo lying south of Venice:[7] 'Gondulam vero nullam nobis nisi libera voluntate vostra factura estis', said the script, while other papers speak at times of a 'platus cohopertus cum

1 *Cal. S.P., loc. cit.* Disp. No. 242, 8 September 1662.

2 See *M.M.* Vol. xi, no. 2, p. 214.

3 Archivio di Stato di Venezia (cited hereafter as A.S.V.), Senato, Francia, f. 149, no. 42, 13 November 1671.

4 A.S.V. Senato, Corti, Deliberazioni, 1756.

5 Sansovino, F., *Venetia Citta nobilissima e singolare*. Ed. Curti, Venetia, 1643.

6 Du Cange, Charles, *Glossarium mediae et infimae Latinitatis*, T. iv, Ed. L. Favre. Niort, 1885. The following is a list of other works which have a bearing on the subject:

Muratori, L. A., *Dissertazioni sopra le Antichità Italiane*. T. ii.

Zanetti, G., *Dell' Origini di alcune Arti principali appresso i Viniziani*. Orlandini. Venezia, 1758.

Gallicciolli, G. B., *Delle Memorie Venete, antiche, profane ed ecclesiastiche*. Ed. Fracasso. Venezia, 1795.

Casoni, G., *Venezia e le sue lagune*. Venezia, 1847.

Urbani de Ghelthoff, *Bullettino di Arti, Industrie e Curiosità Veneziane*. Anno. i, nos. 5–6, p. 60. Venezia, 1877.

Orlandini, G., *La Gondola*. Venezia, 1903.

Meloncini, A., *La Gondola Veneziana, origine e storia*. Ed. Valerini. Roma, 1942.

7 A.S.V. Pacta, T. i, c. 186 r.

felçe'.[1] These facts, and many others, all suggest that originally the name was not restricted to a special type, but rather loosely applied to different boats. It is possible, however, that the craft came into being in the early periods of the Venetian history when the first settlers were fleeing from the dangerous mainland to seek shelter within their secluded lagoons, and was gradually to change in shape and size, following the growth of the City-State. The words of Cassiodorus[2] in A.D. 537, 'Proinde naves, quas more animalium vestris parietibus illigatis...', may have some reference to those same flat boats which the Venetians were known to moor at their own doorsteps. Strangely enough, somewhat similar conditions are yet to be found in Southern Iraq, where the Ma'dan tribesmen have built up their homes amongst marshes and lagoons formed by the junction of the Tigris and the Euphrates rivers, and shaped their shallow boats much in the same way as the ancient Venetians were compelled to do in order to ensure their means of living.[3] However, it is only during the Renaissance period that the first pictorial evidence of gondolas is known, i.e. the paintings by Gentile Bellini (1429–1507), Vettore Carpaccio (1455–1525) and Giovanni Mansueti (from 1485 to about 1527). All these pictures show a number of short and flat-bottomed boats having a rather high free-board, stumpy iron fittings to protect both ends, and the removable hood. The colouring was black, although a white hull appears below the water-line, while the oarsmen seem to be rowing with their bodies poised as they do nowadays. The same craft is described by the Venetian historian Marin Sanudo,[4] and we learn from this author that gondoliers in those days were often negroes or Saracens slaves, and that the price of a gondola was about 15 ducats, but its upkeep was exorbitant, owing to continual repairs which had to be carried out both to the hull and the ironwork (*delfini*).[5] Soon after Carpaccio's time, many changes

1 A.S.V., Arch. S. Giorgio Maggiore, b. no. 5, proces. 87, 1222, Indiz. X. The name *felce* applies to the hood of the boat. Other early quotations of the name *gondola* are to be found in: Dandulus, Andrea, *Chronica per extensum descripta*. T. XII, p. 281, cap. III, Statutum de Potestate Clugie, A.D. 1205, '...reservatis sibi regaliis galinarum, vini, et gondole', ed. Zanichelli, Bologna, 1938. See also A.S.V. *Procuratori de S. Marco de ultra*, miscellanea pergamene diverse, '...navem de bono et legale lignamine cum uno batello et cum una gondolla eidem navem pertinentibus...Rivoalto, A.D. 1277'; *Bibliothèque de l'Ecole des Chartes*, T. IV, p. 251, 'Una barca de pariscalmo et una gondula fornitis...' (1264).

2 Cassiodorus, *Variae*, Liber duodecimus, Epist. XXIIII, Tribunis Maritimorum Senator, A.D. 537–538. *Monumenta Germaniae Historica*, Auct. Antiquiss., pp. 379, 380.

3 There was mention of these boats in *The Illustrated London News*, 19 February 1955, where Mr Wilfred Thesinger pointed out that the Ma'dan Arab craft possibly derive from Sumerian design (i.e. the silver model from the Royal tombs of Ur). It may be added that these shallow boats, while having raised ends and carvel-built hulls, are coated outside with bitumen, bearing the names of *taradas* and *barkash*, which are also to be found in old Venetian; compare *tarida* and *barcaccia*.

4 Sanudo, M., *Chronachetta Veneta*, 1493, Archivio Veneto, Serie IV, p. 92.

5 See explanation of this term on p. 216.

seem to have taken place, the boat tending to become slender and more manageable, so that many wealthy Venetians, as stated by other chroniclers,[1] when going about town, were induced to change over from horse-back or mule-back riding, to gondolas, the use of which then became widespread and reached a record number of 10,000, giving rise, it may be assumed, to the first serious traffic problems.[2]

The earliest known description and plan of a 28 ft. gondola, as reported below, is to be found in a MS.[3] of about 1550, due to a foreman ship's carpenter of the Venetian State Arsenal, one Theodoro de Nicolò, bearing the title *Arte de far vaselli*.

Questa si è la rason de una gondola prima da cavo a cavo son longa pie 28 in boca pie 5 in fondi pie $3\frac{1}{2}$ in pontal pie 2 m̄e un dedo dal cavo de la squara son pie 6 et an dal trasto a prova son pie $4\frac{1}{2}$ a cavo de sesto dito son alto al cerchio pie 2 manco doa deda a pupa son alte el cavo de sesto pie 3 menaccarta da[4] la corba de cavo de sesto a pupa son pie do me q. erta in pontal, a cavo de sesto a pupa pie 3 men q. da la corba maistra all'altra son corbe No. 20 et vano corbe 4 in mezo de un ponto do per banda dal un a pupa vano el trasto el cantier ano de saido in mezo mezo pe, et a pupa ano calcagnol un pe, erto el cavo de pupa pie 5. lanza pie 2. el cavo de prova son erto pie 4. lanza pie 3. Hano de partison mezo pe et un dedo, et ano de scorer de basso al comedo del fondi trea deda hano dal comedo in su al corer mezo pe meza q. dal comedo in su per segnar son a prove per segnar per poder scorer del sesto son de terci de pe manco un dedo et a pupa son un pe e q[a]. et questa si è la sua rason come dovesti far una franda, et così et scorer fagando una ti o le mesure qua soto che te mostra il tutto per ordine.

The following is an attempt at a translation (punctuation has been added):

These are the measures of a gondola.[5] From stem to sternpost is 28 ft., beam 5 ft., the floor $3\frac{1}{2}$. The depth is 2 ft. minus one *dedo*. The height [of the sternpost] measured vertically is 6 ft. From the [fore] transom to the bow is $4\frac{1}{2}$ ft. At this space the *cerchio*[6] has a height 2 ft. minus two *deda*; at the stern the same is 3 ft. minus a quarter. Top of frame at the stern is 2 ft. minus a quarter. Depth at stern is 3 ft. minus a quarter. From one main frame to other,[7] there are 20 frames, and at the main beam 4 frames are wanted, two on each side. From one [words possibly

1 Sansovino, F., *op. cit.*

2 Clauseri, M., *Chronichetta Venetiana*, Venetia, 1599. Number of gondolas as estimated by this author, was about 15,000.

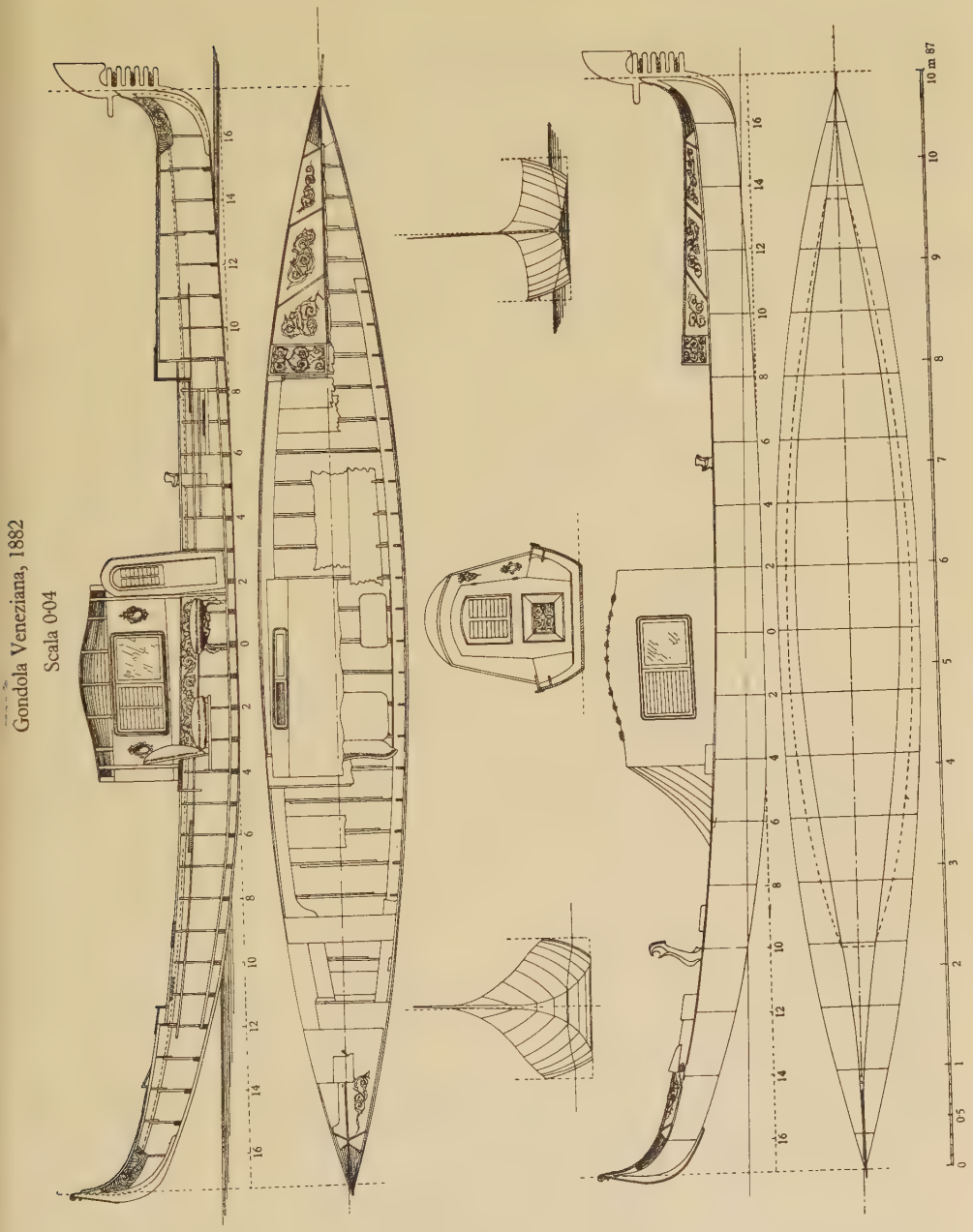
3 A.S.V. Miscellanea Codici, No. 373. One other copy of this same treaty is in the Biblioteca Nazionale di Venezia, MS. Ital., Cl. IV, Cod. 26. The script is in Venetian language, though couched in terms which are often obscure, being primarily intended for ship carpenters; besides, while the spelling goes for nothing, many words are often misplaced or missing and denote the possibility that the two MSS. are but careless copies from other sources now lost. See also Lane, F. C., 'Venetian Naval Architecture about 1550', in *M.M.* Vol. XX, no. I, January 1934.

4 'quarta' in MS. no. 26 of Bibl. Naz. Venezia.

5 Venetian measures: 1 pace = 5 ft.; 1 ft. = 16 in. (deda); 1 Venetian ft. = 1·1 English ft.

6 Refers to the two planks one on each side, which hold together the whole structure, connecting sternpost to stem.

7 The main frames which are first set during the process of construction, are named *maistre*. It may be assumed that sixteenth-century gondolas had only two *maistre*, while modern ones have three.



Plan 1.

missing here] a transom is placed at the stern. The *cantiere*[1] rises about the middle half a foot; its rising (*calcagnol*)[2] at the sternpost is 1 ft., its height 5 ft.,[3] and rakes 2 ft.[4] Height of stern is 4 ft. rakes 3. The amount of narrowing at the tail-frame is half a foot and one *dedo*, and the *scorer*[5] from the floor to the curvature of the frame, three *deda*; and from here upwards to the bow, half a foot. From elbow of frame upwards, half a quarter. In order to trace the *scorer* of this frame, there is a foot minus one *dedo*, and at the stern 1 ft. and a quarter. These are your measures, should you build a large gondola, and having thus described one, I have given you the rules, as here below everything is clearly shown.

Theodoro's treaty, besides being a notable contribution to our general knowledge of sixteenth-century Venetian shipbuilding, is relevant for showing how many terms, such as *pontal*, *corba*, *maistra*, *trasto*, *cantier*, etc., and features belonging to ancient local craft, have persisted and were preserved almost intact through the ages down to our own day. Some analogy in fact may be observed between the early gondolas and another Venetian craft, the *barchetta*[6] or *mezza gondola*, a type which has survived to this day, though never receiving a great deal of attention. It is within the bounds of possibility that this boat of humbler appearance, but bearing comparatively good and seaworthy qualities (she may be seen at times, under a small lug sail, plying upon open stretches of the lagoon), is a living fossil out of which the present gondola was to come forth.

Pictures of later periods, such as those by G. B. Angolo del Moro(?) (late sixteenth century) and J. Heintz the Elder (1600–78), show our craft gradually evolving towards the type which has survived to this day; so that when Guardi (1712–93) and Canaletto (1697–1768) and the many other Venetian *vedutisti* who were depicting the Adriatic City with her waterways and her lagoons swarming with boats of all kinds, when for example during the various ceremonies incidental to the Doge setting out to the Lido in his *Bucintoro*, stylistically the gondola was nearing her present stage of evolution. An exquisite small painting by B. G. Tiepolo shows, with an abundance

1 See explanation of this term on p. 211.

2 Explained by Bartolomeo Crescentio in *Nautica Mediterranea* (Bonfadino, Roma, 1607) as indicating the height of the stem rising from ground level, at a distance of 11 ft. where the vertical line drops from the stem.

3 This measurement when transposed on plan, is only approximate.

4 The rake of the stem (*lanza*) taken on the bisector of the right angle formed by the vertical line going from the stem (or sternpost) to ground level. By Neapolitan shipwrights of the seventeenth century, this same measurement was called *sgarramento*. (See B. Crescentio, *op. cit.*)

5 A tentative explanation of this term is given on p. 212.

6 A. Jal (*Glossaire Nautique*, Vol. 1, p. 245) claims that when the sternpost iron fitting of this craft is different from the one nailed to her stem (*mazzoca*), having 'presque la forme d'une fleur de lis', and named by the Venetians *bechi d'ana* (probably *bechi d'anara*, i.e. the duck's bill), the proper term for this boat was *batello*. The chances are that our French naval archaeologist, who visited the town during the winter of 1841, was misled by the existence of another almost similar craft, the larger and bulkier freight-carrier *battellon*. When under sail, the *barchetta* may be steered by means of a removable rudder which is normally stored beneath the after tilt-roof.

of detail, an eighteenth-century gondola: her sheer-line is gentle, her free-board low and her overhang moderate. The colour was black and the decorations sober, although more elaborate intagli with a superabundance of pomp were at times much favoured by wealthy patricians and foreign envoys during festivities and State occasions, which were so frequent during the last years preceding the final eclipse of the Serenissima Repubblica; a colourful description of such pageantry in Venice is the following, as reported by a French eyewitness:[1]

Le 25 février—1738, M. de Froullay fit une entrée fort belle: sa première et sa seconde gondole étaient appareillées de velours lamé d'or, et sa troisième de drap d'argent brodé de fleurs rouges; le bois était doré et chargé de sculptures emblématiques et la livrée de Son Excellence ne comptait pas moins de cinquante individus.

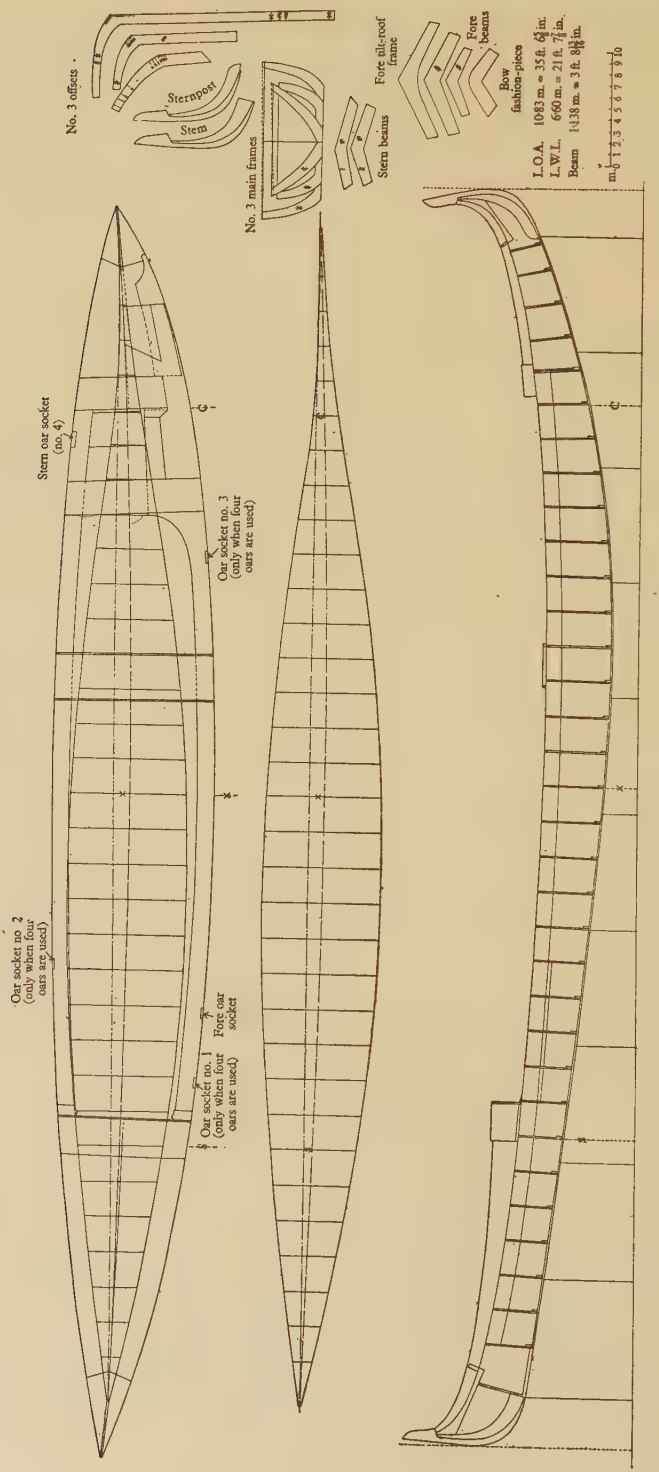
Strangely enough, rococo extravagances, which seemed quite fitting in the general prevailing vogue, were frowned upon by the City authorities when similar embellishments were applied to decorative schemes of gondolas or to the gondoliers' liveries, and therefore often censured by austerity laws.[2] Sumptuary decrees on this matter were issued as early as 1563, but many others were to follow later, though never, it seems, to be strictly enforced.

The collapse of the Venetian State in 1797, with its aftermath of grave political and economic consequences, was soon to have an indirect effect on the future shaping of the gondola. Up to that time two men had usually been required for the rowing of this boat, which had consequently been built and balanced for this specific purpose. Under the strain of an impoverished economy, when the propelling arrangement had to be forcibly restricted, most of the time to one gondolier alone, a new modified shape of hull came into being which had less underwater surface and longer overhangs. The result was a definitely handier craft able to pivot almost upon its axis, when under the stroke of a single oar, a necessary requirement in negotiating the sharp turns of the Venetian canals. These features remained practically unchanged up to the last decades of the nineteenth century, when Vice-Admiral A. Paris, following the wave of interest aroused by Jal's works on naval archaeology, was able to publish a complete set of lines (Plan 1) of an 1882 gondola (perhaps the first modern draught ever made of this craft and due to the painstaking researches of the Italian Admiral Fincati).[3] It so happened that in those same years, an apprentice

1 Baschet, A., *Les Archives de Venise*, p. 484. Ed. Henri Plon. Paris, 1870.

2 A.S.V. *Provveditori alle Pompe*. Senato Terra, Capit. 32, 34, 45, 67, 105, 124, 156, 332. See also Bistort, C., *Il Magistrato alle Pompe nella Repubblica di Venezia*, in R. Deputazione di Storia Patria, Venezia, 1912.

3 Paris, le Vice-Amiral A., *Souvenirs de Marine* (Collection de Plans ou Dessins, etc.), Seconde partie, Paris, 1884.


No. 3 offsets
Sternpost
Stem
No. 3 main frames
Stern beams
Fore nic-roof frame
Fore beams
Bow fashion-piece
I.O.A. 1083 m. = 35 ft. 6⅝ in.
L.W.L. 660 m. = 21 ft. 7⅞ in.
Beam 1438 m. = 3 ft. 9⅛ in.
m. 0 1 2 3 4 5 6 7 8 9 10
Stern oar socket (no. 4)
Oar socket no. 3 (only when four oars are used)
Oar socket no 2 (only when four oars are used)
Fore oar socket
Oar socket no. 1 (only when four oars are used)

Plan 2.

ship-carpenter, one Domenico Tramontin, a country lad aged 16, was given admittance to a yard belonging to the ancient Casal firm, a family of boat-builders which had gained much fame and praise for their skill in turning out elegant gondolas and other canal boats. The boy at first received no recompense, his parents having to contribute to his maintenance by sending to the owners of the yard occasional gifts from the Friuli region where they lived. Domenico, however, soon showed a brilliant intelligence, often suggesting new schemes or introducing improvements to the boats he had been assigned to work on, so that after a few years of much hardship, but plentiful experience, sensing that he had mastered many of the 'secrets' which were part of 'l'Arte degli Squerarioli', he left the Casal firm and started on his own, taking over an old yard in the Rio dell'Avogaria. That was in 1889. Domenico ended his days in 1928, but the business was carried on by his three sons, Antonio, Andrea and Giovanni and the latter's son Neris; it is still thriving to this day. Old man Tramontin, known amongst his people as 'el Grando', must be regarded as the designer of the modern gondola in her extreme version. Though not supported by any solid technical knowledge, he had that instinctive 'ship sense', which made it possible for him to foresee and try out many successful innovations. Comparing, in fact, the plans taken off in 1880 with those traced in more recent times, one cannot fail to notice that quite a number of new features were added during these last forty years or so, such as an increased deviation in the curvature of the central line, fair flowing lines from stem to sternpost, more rake to both overhangs, and consequently a yet further reduction of the immersed portion of the hull, besides other minor constructional details all of which contributed to the achievement of that thing of beauty which the gondola is today.

The modern gondola (Plan 2), with a length of 35 ft. and a 3·8 ft. width, has about three-fifths of her total body in the water, the remaining part being accounted for by the fore and aft overhangs. Besides, this craft is remarkable for having no keel and being a unique example of off-centre symmetry, somehow strangely resembling the lopsided leaf of an elm, and having her left side larger than her right one, yet showing a persistent list to starboard, where in consequence the strongest lateral resistance is to be found. The peculiar shape of this hull can be explained as having mainly the purpose of slowing down the impetus caused by the first forward stroke of the oar, which alone would bring the boat's head to swing to the left. This same tendency is further counteracted by keeping the blade of the oar under water on the return stroke, which is then raised again before it is plunged once more. This downward and lateral pressure is important for, while causing a see-saw side movement, it enables the rower to steer his course

with a minimum of effort. The gondolier, it should be remembered, stands upon a narrow platform on the left side of the stern and rests his oar on a fork (*forcola*) which rises a foot from the starboard gunwale and bends outwards in order to ensure sufficient leverage (Fig. 1). This fork, which is carved out of a solid block of walnut, is somewhat complicated in its parts and curves, allowing the oar many kinds of rests and catches on both its sides. The forward fork instead (set in on the port gunwale when the gondola is propelled by two men) is much smaller and of simpler design. Two other rowers, and consequently two more forks, may eventually be placed (on gala occasions), one to starboard, abaft the fore gondolier, the other one to port, forward of the man rowing at the stern.

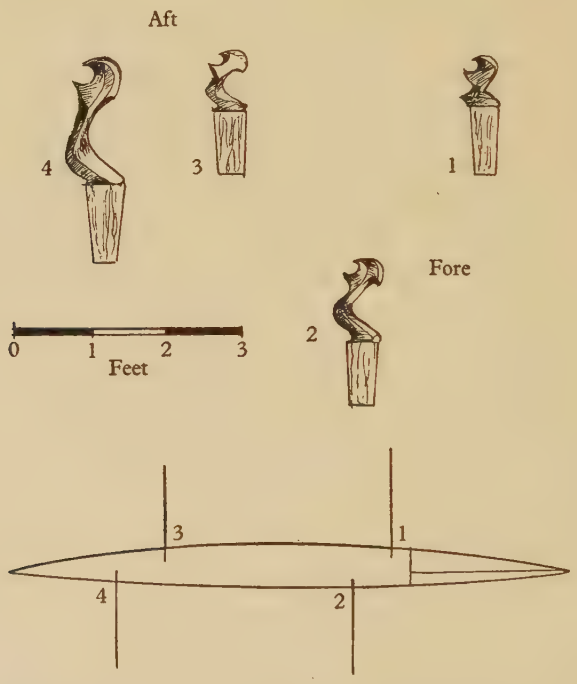


Fig. 1. Gondola oar-forks. Nos. 2 and 3 are only used when the boat is propelled by four men, an event which happens mostly on gala occasions.

Up to a few years ago, gondolas were being built in different sizes, as regards their width, while the length usually remained the same; nowadays there is a limited demand for the smaller version only, which therefore has become the standard type. Exceptionally bigger ones, some 36 ft. long and named *gondoloni*, were used in the past to ferry passengers across open stretches of the lagoon, but went out of commission during the early part of the last century, as soon as the railway was extended to link the City to the

mainland. One other kind, called *gondole da fresco*, of which only the memory remains, were the smallest of their type, being shaped to seat two persons only. A certain number of lighter boats (*gondolini*, m. 9. 50) may still be seen on regatta occasions, but are mere shells, bearing close to the water-line, a narrow opening at the stern, in order to reduce wind-resistance within the hull. Contrary to the usual all-black, they are painted over in light shades and show their racing number on both sides of the fore tilt-roof.

Process of construction

In the days when the maritime fame of Venice was still undimmed, all the output of her fighting galleys was carried out within her State Arsenal, while the building of merchantmen and other minor craft, such as river barges and canal boats, was done in private yards which flourished round the outskirts of the town. A few of such concerns have managed to survive and still carry on their routine supply of *topi*, *peate*, *caorline*, *battelle*, *batelloni* and *sandali*,[1] shaped much on the same lines as they were when the Doge and the Signoria were in power. The production of gondolas, on the other hand, has regrettably shrunk (not more than ten or twelve boats a year), the entire output being undertaken by two small yards both of which stand on the Rio dell'Avogaria, and are the last of their kind.[2]

A visit to the Tramontin yard, *squero* in Venetian, is like going back to the days of the Renaissance when all shipbuilders were under the domain of craft guilds and every foreman had his own 'mistery', the secrets of the trade being jealously guarded within the closed walls of each yard. Time seems here to have stopped, for measures and scales still go by the Venetian foot and the main tools used are the same that appear on the ancient pictures of the patron saint of 'l'Arte degli Squerarioli', the hatchet, the adze and the saw, while all the planning and assemblage work is achieved by the use of formulas which have been tested by long experience, rather than by mathematical guidance, for there are in fact no plans, or drawings or blue-prints, but merely three timber offsets, by means of which the problem of shaping the ribs becomes geometric and thus much simplified.[3] The squero itself is no more than a shed built over an area sloping gently down to the water-edge and closed in on three sides by brick walls, a diminutive replica of the bigger yards of the Arsenal, such as they appear on the plan of the town drawn in A.D. 500 by Iacopo dei Barbari[4]. Within the shed, a permanent timber basis (*cantiere*) is set up, rising a foot from the ground,

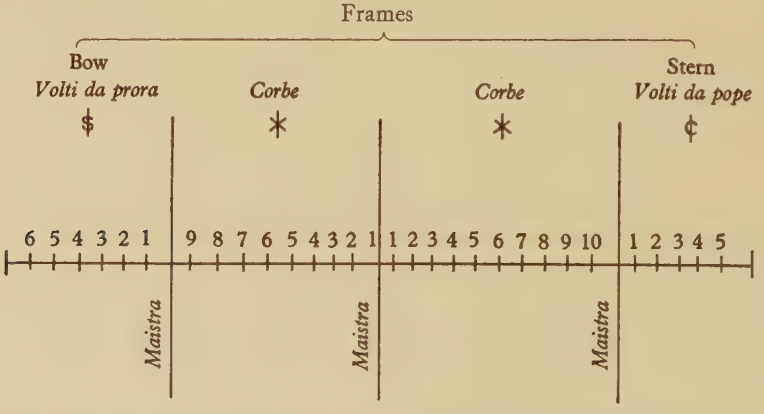
1 Different types of Venetian lagoon and canal boats.

2 Besides the Tramontin firm, previously mentioned, the other nearby yard is worked on a co-operative base.

3 These offsets were designed by Domenico Tramontin.

4 There is a vast bibliography on this etching.

both its ends firmly fastened to poles sunk into the floor. Over this mould, which has already the gondola's sheer-line, besides bearing a list of 10° to the right side, which will cause the craft to be consistently heeled down to starboard (*strapiombo*), the entire framework will take shape. The shipwright starts his work having the standard design of the stem, the sternpost and three main frames named *maistre*, which are, in fact, the first timbers to be fastened into place in the mould, while the successive thirty or more ribs,[1] are drawn, as previously mentioned, from three offsets (*sesti*) which will gradually determine all the narrowing and heightening of the boat fore and aft. The actual tracing is achieved by applying the proper offset upon the frames, previously roughly hewed, and thereafter drawing each section separately, starting from where the floor timber begins to curve upwards (*caduo*) as correspondingly marked off. The extent of the floor widening (*spanto*) is proportionally related and varies by the fractions shown upon the vernier set at the base of the middle and after offsets. This simple geometric device is very possibly that same contrivance by which the old Venetian master-shipwrights constructed their galleys and round ships, and was called *scorrer del sesto*, the purpose and effect of which have been often discussed in past numbers of this *Journal*.[2] Each frame is numbered and marked off by a special sign, such as $, ∗, ¢, corresponding to the fore (*volti da prora*), midship (*corbe de mezza barca*), and after sections (*volti da pope*), as indicated by the following diagram:



As a next step, the ship-carpenter will proceed to lash these parts together by means of a sheer-strake (*çercio*, one on each side), beforehand shaped off with a saw and bent by fire (Fig. 2). Subsequently all the other frames go in, spaced at regular intervals, this stage of construction being named

1 The last tail-frame (*tocco pieno*), owing to its reduced size, is often overlooked, otherwise the total number would be thirty-four.

2 Lane, F. C., *loc. cit.*, p. 31.

imboscatura. It should be noted that the middle frames alone are built up in three pieces, oak being used for the bottom part (*piana*) and elm for the sides (*zanche* or *zanconi*), though the tail-frames nos. 5, 4, 3, 2, 1, and the bow ribs nos. 6, 5, 4, 3, are shaped in two pieces only. All the upper ends of the frames, comprised within the two extreme *maistre*, are then trimmed off and firmly fastened down by the gunwale (*nerva*), and below this by a narrow plank (*corbolo*) neatly notched in between the ribs; subsequently two fashion-pieces (*socheto da prora* and *socheto da pope*), carved from solid blocks of oak,

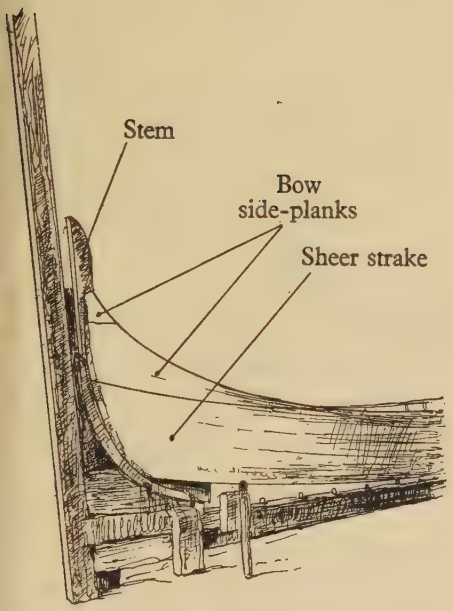


Fig. 2

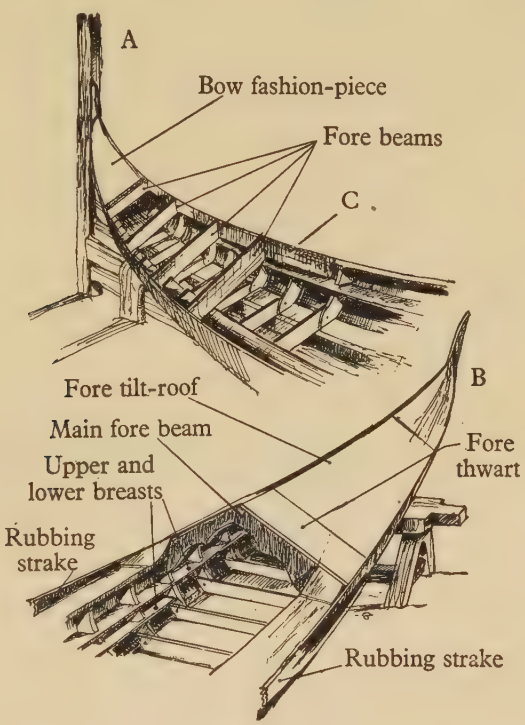


Fig. 3

Fig. 2. Bow view of gondola while under construction. The stem appears fastened on to the permanent basis (*cantiere*), while all the fore frames have still to be put up.

Fig. 3. (A) The boat as she looked on 1 February 1955, 7 days after the stem and stern-post had first been set up. (B) 5 February, the craft is now off its basis and placed upon trestles. Beam C is removed when the fore tilt-roof is put on.

are fitted abaft the stem and sternpost, followed next by the fore and aft tilt-roofs (*fiuboni*) which arch over from gunwale to gunwale, these pieces resting the fore ones upon three and the after ones upon two beams (*caene*), while still larger ones (*tresso grande* and *tresso piccolo* [or *trasti da pope*], *trasto de mezza barca* and *trasto da prora*), all bent to shape by fire, go in fore and aft

and amidship, to give additional strength to the hull. One more *caena* is set up close to the fore tilt-roof and is named *pontafossina* (Fig. 3), a piece which being much in view, is often elaborately decorated. At this stage the boat is taken off its basis, turned upside down and set upon trestles, both ends fitting into holes scooped out of the floor, for now the shipwright will show his skill by giving the prow and stern the required amount of rake. This curvature is seldom the same, varying in fact from craft to craft, and is left to the carpenter's practised eye and the prospective gondolier's choice. This operation is achieved by burning bundles of marsh-cane beneath the framework and gradually adding pressure by bending in flexible ribs between the ceiling beams of the shed and the hull itself, the wood being moistened down with sea water at the same time. Apparently, only marsh canes[2] coming

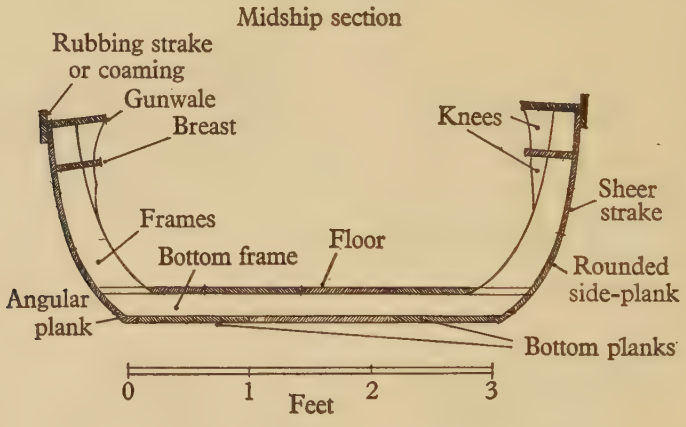


Fig. 4. The gondola's midship section.

from the nearby lagoons have the required degree of humidity to fit them for this peculiar job. While this work is being carried out, the fore and aft bottom planks (*colombe*) are fastened on, followed by the middle ones. The craft is now righted again, for other pieces have still to be added, such as the upper rubbing strakes (*masse*) and one other side-plank (*nombolo*), nailed below the *çercio* (Fig. 4); then comes the narrow platform on the left side of the stern, which is actually made of two pieces (*soralai* and *pontapie*) upon which the gondolier stands (Figs. 5, 6). Loose removable floor-planks, commonly known as *paioli*, are placed over the bottom frames, though in the past their correct name seems to have been *costrai*,[1] a word possibly coming from the Roman *constratum*. More or less elaborate intagli may

1 Jal, A. *loc. cit.*
2 *Arundo phragmites* L.

eventually decorate the two tilt-roofs or other features of the boat, this being the job of specialized craftsmen who do not belong to the yard's staff, but are called in occasionally when such work is needed. The gondola is now ready for the caulker to drive oakum into the seams and to spread pitch over the inside and outside bottom planks, before the final coat of jet black varnish is applied. Other fittings (which all go under the name of *parecio*) have yet to be attached before the gondola is handed over to her new owner, such as all the upholstery, the pair of brass sea-horses to go on each side of the leather-covered plush-trimmed seats, the carpet, the summer awnings, the bow

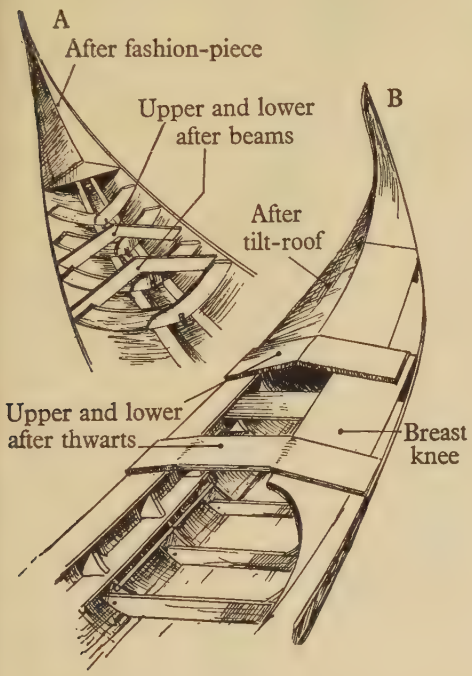


Fig. 5

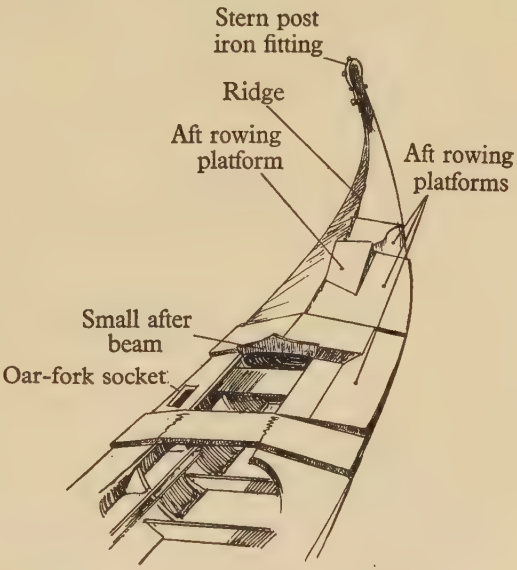


Fig. 6

Fig. 5. Stern view. (A) When sketch was taken on 31 January, two-piece frames were still nailed on to the basis, as well as side-strakes joining up at stern-post. (B) 6 February, stern appears almost built up.

Fig. 6. All minor fittings have been added to the stern, including ironwork. This gondola was launched, or rather pushed into the water on 15 February.

lantern, the cumbersome winter hood, and the many other minor items, the inclusion of which are of course dependent upon the gondolier's finances (see Fig. 7). Within this last Venetian boat-yard, where work, when it comes, starts at sunrise and stops by nightfall, labour problems, as well as modern ways and machinery, are practically unknown, everything being

efficiently and smoothly carried out by hand. Gondolas, which are usually built during the winter season, can be assembled and ready for launching in about 20–25 days.

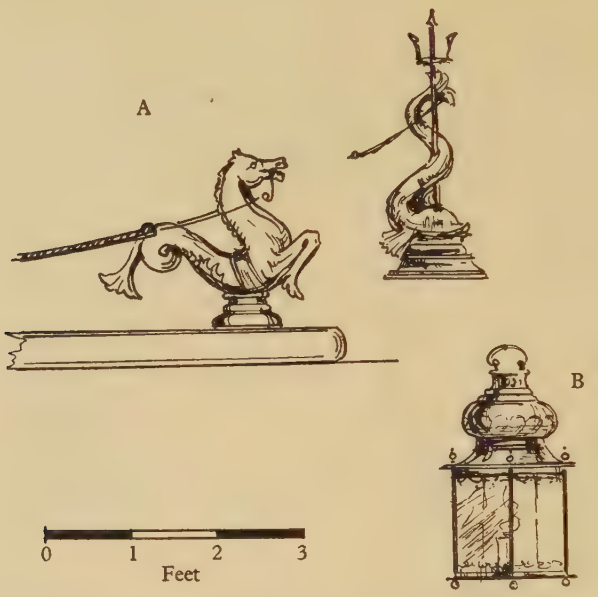


Fig. 7. (A) Bronze sea-horse and bronze dolphin coiled around trident; these are placed on each side of fore part of elbow-rest. (B) Old-fashioned brass gondola lantern.

The Ironworks

Prominent features of this craft, which are added when the last stages of construction are reached, are the fore and aft ironworks. The polished steel blade which springs from the prow, affording both protection to the bow and a counterbalance to the weight of the gondolier at the poop, is commonly alluded to as *el ferro*, while early Venetian documents seem rather to refer to it as a *delfinus*;[1] there are doubts however, that this term may have meant any kind of ironwork nailed to the cutwater and to the sternpost, such as all the Venetian boats have carried in the past and still carry to this day; the name *delfinus* appears, in fact, in *Statuta Navium*,[2] a set of naval laws which were issued by the Doge Pietro Ziani in 1227. Full-fledged iron prongs began to sprout on both ends of the gondolas by the middle of the sixteenth century, gradually changing in time to the present shape. Paint-

1 A.S.V. Arch. Podestà di Murano. b. 32, Regg. Marco Minto, carta 81 r. (N.S.), 2 September, 1845, '. . .invenit quandam gondulam sine delfinis.'

2 A.S.V. *Liber Plegiorum*, c. 105: 'Et quelibet navis inter duo cohoperta mensuretur ab uno delfino ad alium.'

ings, by such masters as Tiepolo and Canaletto, reveal that in their time the *ferro* had already reached a standard type as regards the prow fittings, but had shrunk to a negligible size at the sternpost. Nowadays it has changed but little, save a further reduction in weight and shape, obviously in order to diminish the downward strain at the bow. For centuries these pieces have

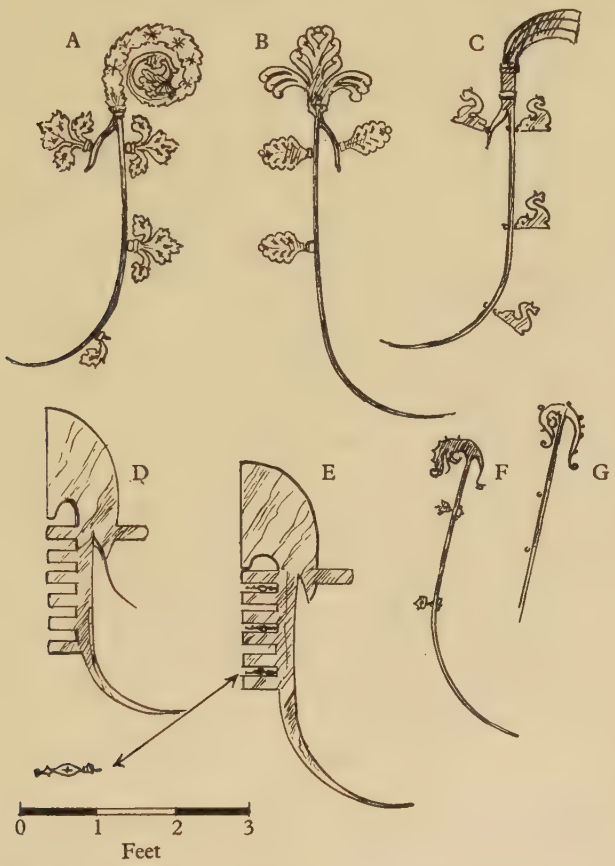


Fig. 8. (A–C) Seventeenth-century bow-prongs. (D) Eighteenth-century type (from an etching by Canaletto) and (E) present-day shape. (F, G) Old and modern stern iron fittings. (All in Museo Storico navale, Venezia.)

been cast either in Zoldo Alto, a hamlet lying in the Cadore region north of Venice, or in Maniago, a small town of the Udine province; quite recently experiments have been carried out with aluminium or rust-proof steel, with doubtful results. The true meaning of the prongs (they vary in number from six to seven) is uncertain, though according to a common belief they stand for the six wards (*sestieri*) into which the town is divided (Fig. 8).

Sketching a gondola free-hand may prove a very trying job, for every piece of this craft is apparently lopsided, asymmetrical and incongruous, although when carefully examined, it will result in a rare combination of balance and proportions absolutely fitted to the purpose for which it was designed, having thus at this stage touched the acme of perfection. But alas, what befell the proud sailing ships of the past, which were swept from the seas after a triumphant climax, may happen as well to the gondola, for all the odds seem nowadays to be pitted against her. Most of the *squeri*, in fact, have gone out of business and no apprentices come any more to join the thinned ranks of 'l'Arte degli Squerarioli'; besides which the fast increasing number of motorized craft (unchecked by any speed regulations) have turned the once placid waters of the Venetian canals into a foaming maelstrom which is gradually gnawing away the foundations and the stones of century-old buildings, while dangerously straining the fragile hulls of the surviving boats. As a consequence of this regrettable situation, a new and most ungainly, yet stouter craft, with a weight capacity of sixteen to twenty passengers (compared to the former eight), being a compromise between the *barchetta* and the gondola, was recently produced, coming to take over the latter's place at all the ferry-stations along the Grand Canal. Such boats, which can obviously better withstand the rude and unceasing buffeting to which they are daily subjected, mark one step further in the evolution of the gondola, though this time certainly not for the better. Grave apprehensions therefore are being felt about the future of this boat, for it is believed that when, in the course of time, the last Venetian shipwrights have vanished from the Rio dell'Avogaria, and gone with the wind all their 'secrets' and traditions of their trade, that day the fate of the gondola, or a boat worthy of that name, will be definitely sealed.

CHRISTOPHER GUNMAN AND THE WRECK OF THE *GLOUCESTER*

By P. M. Cowburn

Part II[1]

IN Part I the various accounts of the wreck of the *Gloucester* frigate on 6 May 1682 were examined in some detail. It will be remembered that James Duke of York had been recalled to England in the spring of that year, but had wished to return to Scotland for a short time to settle his affairs and bring back the Duchess of York. It was during the journey to Scotland that the *Gloucester* was wrecked when she ran aground on the Lemon and Oar sands off the Norfolk coast. Several other frigates and a few yachts accompanied the *Gloucester*, and amongst them was the royal yacht, the *Mary*, commanded by Captain Christopher Gunman.

It is intended in this article to consider the repercussions of this wreck from Gunman's writings and particularly from his journals, because it is in them that Gunman's personality emerges and a vivid picture of a court martial can be seen with all its attendant risks and uncertainties.

The events of 6 May 1682, the day on which the *Gloucester* was wrecked, are recorded by Gunman clearly and without prejudice: indeed, it is remarkable how little he embellished his account of the matter later on, either when giving evidence at the court martial or in the statement he prepared in his defence. The account of the wreck runs as follows:

May 6 Being Saturday, this morning at 2 having 14 fathoms. . . we altered our course from NNE to the N. I was on the lee bow of the Duke and at 5 I came into 7 fathoms water. I presently made a sign to the admiral by weaving[2] the depth with a Jack flag, and bore away W. which deepened my water. The admiral followed me bearing away, but presently after sprung his luff again by which means I perceived him aground (on the Lemon) began to fire guns: then I sprung my luff and stood into 3 fathoms a quarter less and made a board and so came up with him by which time the shallop was a hoysing out and his Royal Highness came on board. I hoysed out my boat and saved about 26 men. I anchored and took up all who came near me and at 7 I set sail (the *Gloucester* sank half topmast down, being come off from the sand) into 15 fathoms water. I steered away NW having the Lemon on my starboard side and another bank which broke on my larboard side about 4′ asunder.

1 For Part I, see *M.M.*, Vol. xlii (May 1956), pp. 113–126.

2 There is some doubt about the actual word used by Gunman, but it seems clear that 'weaving', i.e., 'waving', is intended.

Then follow the details of the resumed journey until, on the following day, 'a little past 7 (I) passed by Inchcape and at 8 I came to an anchor in Leith Road where I safely landed his Royal Highness God be praised'.

In a letter to his wife,[1] written from Edinburgh on 9 May, Gunman embellishes the story with some personal touches. The letter begins:

My dear Joy,

This is to let thee know that, praised be God, his Royal Highness is in good health, as is also myself. . . I am heartily sorry to relate the misfortune of this voyage, which is the loss of H.M.S. *Gloucester*, on board which HRH was, which is thus. . . .

Then follows the extract quoted in Part I which covers the altercations between the pilot and the captains of the yachts culminating in the *Gloucester* running aground. Gunman then continues:

Then I stood in upon the sand and went close to them, when the ship drove off from the sands into 15 fathoms of water where she went to the bottom, some part of the topmast being above water. We put out with our boats (it blew hard and a great sea) and saved what men we could, being all naked. The Duke came on board just with a coat and breeches on which was all he saved—plate, linen, clothes, money etc all gone to the value of above £5,000. And of all sorts there were above 150 men drowned and all in less than ¾ hr. I would not, for all the sheets I am worth, have been without a pair of sheets this bout, for the Duke had neither linen nor victuals nor anything else, but of mine; and it did fall out that I was pretty well provided of all things, better than I used to be, both for liquor and for other provisions, for I gave him 2 or 3 dishes of meat each meal, with which he was well pleased. And I had 2 silver plated, enough for himself, always washing the one whilst the other was using.

Which is all at present, from thy true and faithful husband till death.

Chr. Gunman

The next entry of interest in Gunman's journal is for 6 June:

I was at a court martial on board the *Charlotte* yacht. Sir Richard Haddock was President. It was held for the loss of the *Gloucester* and the burning of the *Henry* off Chatham. The pilot of the *Gloucester* condemned to prisonment during life, the old man that set fire on the occasion of the fire in the *Henry* to stand ½ an hour with a halter about his neck and cashiered the service, his wages forfeited to the chest etc.

But though Gunman might have been an interested spectator at the court martial on 6 June, he was more closely concerned in another held on 13 June.

This day was held a court martial on board the *Charlotte* yacht at Greenwich concerning my mate who was clapped into the Marshalsea the 6th instant and brought out this day, suffered to swear himself out and me in, and I forthwith dismissed my employ, imprisoned and fined a year's pay, and all without any indictment against me or knowledge of any accusation or anyone to be produced to my face to swear against me, yet carried on with so great rigour against me as the like was never heard or seen, for I was judged guilty of breach of orders although it was plain I never received any orders to that purpose, but being accidentally on the lee bow of the *Gloucester* which unfortunately run on the Lemon and Oar, must therefore nolis volis be condemned, and indeed

1 Printed in E. Hallam Moorhouse, *Letters of the English Seamen*, pp. 96–8.

I shall leave this on record to my posterity, never to go ahead by night or day of a flag without having particular orders and directions for so doing which if I had not done although it was well intended by me, yet found most pernicious and destructive to me, nevertheless HRH was then on board the *Gloucester* both saw the action and knew my innocency, and being well assured of both did cause per letters of his Royal Breast and never-failing goodness all the sentences of the said Court Martial to be remitted unto me.

Indeed, the Duke does seem to have come to Gunman's rescue very promptly, for in the journal for 23 June, only ten days after the court martial, we find the entry 'I received a commission again for the *Mary* yacht of which I was lately dismissed'. But in any case the decision of the court does not seem to have been considered very satisfactory. For the very day of the Court Martial the King asked the commissioners of the Admiralty for a 'particular account of all the proceedings and proofs before the Court Martial' and Gunman was ordered to be removed from the Marshalsea to imprisonment in his own house at Deptford, and the commissioners were not to dispose of the command of the *Mary* yacht for the present.[1] On 19 June Gunman was pardoned,[2] though the forfeiture of a year's pay which was to be applied to the Chest at Chatham was excepted, and even this was remitted six months later.[3]

Nevertheless, Gunman's anger at this unexpected treatment was considerable, as we shall see, and understandably so, for surely he was justified in feeling that he had done nothing to diminish the esteem in which he was held by the Duke of York who had entrusted himself to Gunman's seamanship and hospitality not merely immediately after the wreck but also on the homeward journey, selecting him to take command of a ship which was not his own.

What then was the case against Gunman? Evelyn[4] states it most succinctly when he writes that Gunman 'was accused for not giving timely warning when she (the *Gloucester*) split on the sands, where so many perished'. But there may have been more to it than merely a question of time. In the instructions for sailing the fleet[5] to be observed by all 'pilots, ketches, hoys and smacks' it was clearly laid down that 'at any time, but in time of fight' vessels were to keep in their respective stations and if any 'lesser depth than seven fathoms in the daytime' were met a gun was to be fired and the mainsail hauled up, and at night in the same circumstances the order was 'to fire a gun and make false fires till you are answered from us with false fires again'. Evelyn, who seems to have had a high opinion of Gunman, was 'most

1 *C.S.P.* (*Dom.*), 1682, p. 247.
2 *C.S.P.* (*Dom.*), 1682, p. 253.
3 Gunman's journal, entry for 5 December 1682.
4 Diary 26 March 1685.
5 Instructions for Sailing the Fleet by the Duke of York, 1673, Dartmouth Papers, no. 13.

confident he was in no ways guilty either of negligence or design, as he made appear not only at the examination of the matter of fact, but in the vindication he showed me, and which must needs give any man of reason satisfaction'.[1]

Amongst the Gunman papers there is a long, carefully written document written in a hand contemporary with the journal, though possibly not by Gunman himself. It is entitled 'An Abstract of Capt Gunman's Cause who was lately censured at a Court Martial for Neglect of Duty: by Sir Richard Haddock President of the Said Court'. Perhaps this is the 'vindication' mentioned by Evelyn. Also amongst the Gunman papers is a manuscript copy of the proceedings of the court martial on 13 June, which will be quoted in full before we consider Gunman's 'cause'.

At a Court Martial held on board his Majesty's yacht the *Charlotte* the 13th June 1682 by orders from the Rt. Hon. the Commissioners for executing the office of Lord High Admiral of England dated the 30th of May last.

PRESENT

Sir Richard Haddock, Kt., President
Captain Henry Williams
Captain George Churchill
Captain Thomas Allin
Captain William Botham
Captain Math. Tennant
Captain Ralph Wrenn
Captain George St Loe

Upon enquiry into the loss of HM ship the *Gloucester*, Sir John Berry, Knt., commander, on the Lemon sands the 6 May last

The court, being informed that the *Mary* yacht was ahead of the said ship *Gloucester* in sailing at the time she was lost, according to their duty and the commands of the Right Honble the Commissioners for executing the office of Lord High Admiral of England, do think fit to examine the officers of the said yacht about it.

And first having called in *Captain Christopher Gunman* commander of the said yacht on the 6th instant being then interrogated and asked whether he was ahead of the *Gloucester*, he answered that he was ahead on the lee bow and larboard side and kept the lead going and had 15 fathom water and after 7 fathom water upon which he bore up round west and made a signal with a Jack on a staff on the poop; and being this day the 13th examined upon the same matters and charged with neglect of duty of the first article of the sailing instructions for Masters, Pilots and Tenders on his Majesty's fleet, why he did not fire a gun when he ran into shallow water being 7 fathom was he said because he knew not whether he was to windward or to leeward of the sand which so soon as he knew, the Admiral was aground and fired a gun, for should he have been to windward of the sand the admiral to windward of him might have gone clear without a signal and bearing down to leeward of him might have run upon the sand, and therefore did not fire a gun. And for the sailing instructions alleged against him, he had not them nor had them in 10 years and doth not look upon them for instructions to be always in force but made for the present occasion and expedition and alterable.

1 Evelyn, *loc. cit.*

William Sturgion. Mate of the said yacht, being called in the 13 June heard what he had said on the 6th read which was as follows: Being examined as to his not firing a gun when they found 15 fathoms water and after 7 fathom when they bore up, said he had no orders for it, but that if he found little water he should call the captain and bear up. He further said that when the captain's watch was out at 4 o'clock in the morning the captain went off the deck. This examinant coming to take the charge of the watch, the captain bid him look out and if he saw any rippling to heave the lead, and that he asked the Captain if he found shoal water what sign he should make, whether he should fire a gun or what sign he must make, and the captain answered that if he ran into shoal water it would be the Lemon, and he should put the helm aweather and bear up and they would take notice of it upon which he the said mate, finding shoal water immediately bore up the helm and called the captain and steered away west about a quarter of an hour from the time that he bore up. And a little before the *Gloucester* fired a gun, about a minute's time, he loft to, with the head to the northward, but before, when the yacht was before the wind this examinant would have had the sail gib'd and laid her head to the southwards, but the captain answered to do so would run them on the sand, but by standing to the northward he would weather the head of the sand, and he, this examinant, doth verily believe that when the yacht bore up she was a mile and a half ahead of the *Gloucester* on the lee bow and that the captain, when he came upon the deck (which was immediately after he was called), he called for a flag and caused it to be made fast to a staff and the gunner kept waving it on the poop until the *Gloucester* was aground. And being interrogated whether the gunner were out or hailed forth and aft, he said they were all out which he declared upon oath and further says not.

Elizeus Blyth, gunner of the said yacht having taken his oath and interrogated whether he was upon the deck presently after the watch at 4 o'clock answered that he was not upon the deck, they not calling him, but came upon the deck when the mate called the captain, he hearing the mate call him and about a minute's time he came upon the deck. Hearing the Jack flag called for, he run down and fetched it up and fastened it to a staff and went upon the poop and waved it 5 times. Being asked how long he might be upon the deck before the *Gloucester* fired any guns, answered about 3 minutes, and further said not.

Edward Reynolds, seaman aboard the said yacht, being called in and taken his oath was interrogated whether he was upon the deck at 4 o'clock, answered 'Yes', and being asked whether he heard what charge was given to the mate by the captain, answered that if the mate should meet with any shoal water or rippling that the mate should call the captain which he accordingly did. Being asked what distance the yacht might be from the *Gloucester* when she met with the shoal water and did first bear up, answered 'about half a mile', and further saith not.

William Shepheard, seaman aboard the said yacht, being called in and taken his oath and asked how long he had belonged to the yacht, answered 'but since Christmas last', and whether he was on the deck at 4 o'clock, answered 'Yes', and that after 2 or 3 throwes with the deep sea leads he went into the chains with the hand leads and kept near upon a glass and that the yacht in sailing was upon the *Gloucester*'s lee bow something more than a mile distant when the yacht bore up and that within 2 or 3 casts after the *Gloucester* fired her guns he laid in the lead and came out of the chains into the yacht and further saith not.

John Eaton, seaman aboard the said yacht being called in and taken his oath, was interrogated whether he was at the helm at 4 o'clock, answered Yes, and said between 5 and 6 o'clock the yacht did bear up upon meeting with shoal water and, that from the time of the yacht's bearing up to the *Gloucester's* firing guns was almost a quarter of an hour, and that the yacht was a point or two ahead of the *Gloucester* upon her lee bow about a mile distant, and that he did not hear any charge given by the Captain to the mate when he left the deck, neither heard any person mention the words (wave the Jack five times) and further says not.

Sir John Wyborne made affidavit the 6th instant that it was near a quarter of an hour's time after the *Mary* yacht had bore up before the *Gloucester* did fire a gun. And being asked what distance the *Mary* yacht might be ahead of the *Gloucester* when the *Mary* yacht did bear up, answered that he could not tell by reason that he was about a mile astern of the *Gloucester*.

Sir John Berry was called in and, taken his oath, was asked what time it was between the *Gloucester's* striking and firing her guns, answered 'about 2 minutes'.

It being put to the question in the court whether Captain Christopher Gunman be guilty of neglect of duty, it was carried in the affirmative (nemine contradicente) in meeting with shoal water and not firing a gun (which is the usual signal given in cases of danger and shoal water) to give warning to the *Gloucester* who was astern and running into danger, and therefore do find that he falls under the 27th Article of War,[1] and adjudged that he be dismissed from the command of his Majesty's yacht the *Mary* and to be imprisoned during his Majesty's pleasure, and a year's pay to be forfeited for the benefit of the chest at Chatham.

As to Wm. Sturgion, the mate, this court do not find him negligent of his duty, and therefore do acquit him and clear him.

From Gunman's statement here we see that he did not follow the letter of the sailing instructions already quoted, and indeed did not consider these instructions to be in the nature of standing orders but rather as *ad hoc* regulations of which he personally had never had any experience 'in ten years', i.e. ever since the instructions came into force, for they are dated 1673. Consequently Gunman resorted to the use of a flag fixed to a staff which is corroborated in the evidence of Sturgion the mate and Blyth the gunner who actually waved the flag. Gunman may well have thought that the flag was a far more effective signal in wild weather when a gun-shot might not be heard.

The neglect of duty, then, of which Gunman was guilty was his failure to fire a gun 'which is the usual signal given in cases of danger and shoal water', and this failure brought him, in the opinion of every member of the court, under the 27th article of war, so that his punishment was heavy—dismissal from his command, imprisonment during his Majesty's pleasure and forfeiture of a year's pay 'for the benefit of the chest at Chatham'. The mate, however, was found not guilty and was therefore acquitted. The court martial proceedings are signed:

Rich. Haddock
Geo. Churchill
Tho. Allin
Hen. Williams
Ralph Wren

and countersigned Hen. Croone Judge Advocate

The abstract of Gunman's cause, mentioned above, is a document of great interest and is worth quoting in full in spite of his rambling style. Its

1 The Articles of War were enacted by the authority of Parliament in 1661. Article 27 of 13 Car. II, st. 1, c. 9, reads: 'No man in or belonging to the Fleet shall sleep upon his watch or negligently perform the duty imposed on him or forsake his station upon pain of death or other punishment as the circumstances of the case shall require.' This is the same, except for a few unimportant words, as article 32 of the Articles of War dated 1652 and published in *Letters and Papers relating to the First Dutch War*, Vol. III, pp. 293 ff. (N.R.S.). Article 27 seems to have been of a conveniently general nature for charges of inefficiency, though it will be noticed that the first part, 'sleeping upon his watch', is not entirely relevant to Gunman's case (see Pepys's *Naval Minutes* (N.R.S.), pp. 149–50).

main features are: Gunman's insistence that his signals were normal when he found that he was in shoal water; the attitude of Sir Richard Haddock in the first court martial which was that 'there was nobody questioned or mistrusted anything' in Gunman 'nor doubted in the least' of his performance of duty: and the rather shady circumstances in which Gunman's mate was taken into custody and the pressure put on him in prison, 'tampered with', as Gunman puts it, so that he becomes 'an instrument to swear against me, not to my face, but in great privacy (and then the word put into his mouth)'. The cause reads as follows:

First on the 6th June my mate being questioned by the Court (who had the watch that very time and hour when the *Gloucester* run aground and was lost on the Lemon Sand), I told the court that when I went off the deck at 4 and left the watch to him, being then on the broadside of the *Gloucester*, that he should observe and follow their motion, and if he came into shoal and unexpected depth, he should immediately come and call me, and bear up round (by reason we went large, the wind at E, steering NNW, the sails trimmed accordingly, and therefore the yacht soonest brought about before the wind). I being called at half an hour past 5 came immediately on the deck and found 7 fathoms water, being then on the *Gloucester*'s lee bow some half a mile distant W. by N. from her, did immediately endeavour by keeping the lead to find whether I was to windward or to leeward of the sand which in 2 or 3 minutes time I found that I was to leeward of it, by reason in bearing away west, I came from 7 to 9 fathoms water at which time and minute the *Gloucester* was aground and fired a gun by which means I was prevented from firing or to show or to give any manner of notice more than what I had already given which was by a Jack flag on the poop fastened to a staff weaving so many strokes as I found fathoms water (which is a usual signal in daytime on like occasions) and was the same or the like to be done again in the like space of time, I know not how to act otherwise than I did, and when I found that the duke was aground, I thought my only duty was to get up with him as soon as I could which was some time before his barge was hoisted out and I had been up, laid the yacht about with the head to the northward, hauled all my sails up close long before the duke came on board me. To all this Sir R. H. the President answered that there was nobody questioned or mistrusted anything in me, nor doubted in the least of my performance of duty, and therefore had nothing to say to me. Yet that very day and hour the President wrote a warrant and gave it to his courrier (?) Mr Jones the Marshal to take the said mate into custody, unknown to me, and, as I am informed by some of the captains of the court, unknown to them. This man after having lain 8 days in prison was brought in order to a trial at a court martial as I supposed the 13 June at which court I thought fit to appear at in order to justify the mate. As far as I knew he had complied with my orders to him, yet myself without any manner of summons or notice to be there, and might therefore as well have been absent as present and more in particular by reason nothing before was laid to my charge, now I find this mate hath been tampered with in prison, all the Phanaticks in town, his creditors having been with him, he having 62 months pay due and that or the most part of it owing to them, they not wanting (according to their accustomed principles and loyalty) to advise how he should save it, for it being given out, and he possessed with it, that I had clapt him in prison and that he should lose all his pay, the said mates's wife running up and down to procure people to swear for her husband against me what he would have them, which upon oath I can make appear and prove by such as she brought to her husband in prison who refused the said mate's desire, saying they would not forswear themselves for the world. Now on the 13 of June, as is said, this mate coming out of prison (where he had lain 8 days), is made use of as an instrument to swear against me, not to my face, but in great privacy (and then the word put into his mouth) without anybody suffered to be near (or to their knowledge within hearing) much contrary to law or custom in like causes. Secondly I having no charge given me, nor yet knew of anybody accusing me, was called for in and heard several depositions read, was asked what I had to say to them, answered I had little or nothing to

say to them (in regard they had formerly said that they had nothing to allege against me) but told them that they themselves might hear the said depositions to be contradictory one to the other, I was bidden to withdraw and in a small space of time was called for in again, and had a sentence of the highest severity imaginable read against me, which made to stand for some time amazed. Now I never as much as knew or had the least notice or intimation given me by the President of my being called in question, and I do believe I am the first supposed criminal that ever was brought to trial without first having a copy of his indictment or accusation given him for to make his defence on. Nor yet did I know any one of my men were to be brought before the court, although it was alleged I had sent them out of the way on purpose in the morning when my boat carried me on board the *Charlotte* yacht, the men asked whether they should stay for me or no. I told them I had no business for them and therefore might go on board again. This was called sending the men out of the way, and alleged a crime in me, and readily embraced by my adversaries so to be. Yet these very men or such of them as was sent for did come and appear before the court, and none of all the yacht's company were sent for but 4 who the mate gave directions for to the President and he thought was for his turn, two of which swore quite contrary to what he, the said mate, swore, and the third of them had it written on a piece of paper in his pocket three days before the court was held what he was to say, as I can prove by several that saw it, and himself now not denies it. And the circumstances well considered proves it an impossible thing to be true that Wyborne and the mate did swear but utterly false, for W. (without being called thereunto) stands up and swears I bore away one full quarter of an hour before the wind which at the rate we then run must carry me full 2 miles to leeward; the mate swore I was 2 mile on the lee bow when first bore away. Now there went a big sea, and then a leeward tide which against both would not have suffered me to have come up with the duke in three hours time (No, not at all until the tide had been spent). And it is well known to HRH that I was up with him long before his boat was hoisted out, so these two persons might as well have sworn I did kill a man at the Barbados at that very time and hour. Next it was alleged that I had sent my carpenter out of the way on purpose, and if he had appeared they could not have saved my life (O abominable ingenuity). The said carpenter hath declared upon oath before the Rt. Hon. Sir John Moore, Lord Mayor of London, that the said allegation is utterly false and scandalous and a mere defamation against me, and further the said carpenter hath declared upon oath that the said mate did send his wife to the said carpenter to bring him to him in prison, and there would have had him to have sworn several things against me which the said carpenter hath declared he was wholly ignorant of, nor never heard me say, or knew me do what the said mate would have had him to swear. All which allegations of the court against me I suppose was merely to collar their unreasonable and malicious punishments laid on me, and to lessen the guilt of (Ayres) the pilot who is the President's particular bosom creature. For otherwise he would never have prepared the court as he did with a harangue in the pilot's praise on the 6th of June when the said pilot was tried which he ended with these words, viz. that he would pawn his salvation on the said pilot was he to go to sea again, a seasonable time and saying for the pilot's advantage which did take good effect as may appear by the pilot's punishment who had the charge of all, being compared with the punishment laid on me who had no charge at all (more than to navigate my own vessel). Now if here had been no malice or design against me, why the court kept so private contrary to custom, why not everyone sworn before my face, why had I not notice that I was to be accused, and a copy of my accusation given me, why had I not notice that my men were to be brought before the court, and why not all the yacht's company as well as four picked out amongst them, the gunner was threatened to be turned out of his place because he would not swear what they would have him? And suppose granted I was ahead (as falsely is sworn), why more punishable in me than those who lost company, as the *Ruby*, *Dartmouth* and *Lark*, as long as neither they nor I had any orders or directions to be or keep ahead. And in my hearing the Duke gave the pilot positive command the first hour he came on board that he should not go within the sands, but far enough without them all, upon which order I suppose Sir John Berry grounded his reason not to give anyone directions for going ahead? And lastly of all why was I sentenced by an article I never was concerned in, as the first or any part of the pilot's or tender's instructions, either of which I never was, and do say it is neither honesty or reason to allege it a

standing instruction or to be in force without having first received them each voyage going to sea? And pray why was there not instructions given to each commander going into Scotland as well as there was coming back thence, for without that the very words of my commission clears me of it which are these, viz. 'and you likewise strictly to observe and execute as well the standing instructions of the Lord High Admiral hereunto annexed attested to by our secretary as what further orders and directions you shall from time to time receive from us or any other your superior officers for His Majesty's Service'? Now this is plain to anyone who is not biassed (nothing being mentioned in the instructions annexed to the commission concerning pilots and tenders) that there must be orders and directions from time to time given by superiors to inferiors for what in such cases they would have done, and if no such orders and directions be at any time or from time to time given, as I desire to know whether at the late voyage into Scotland any orders or directions was given me, as I am well assured there was not, then with humble submission I do think myself very unjustly sentenced guilty for breach of that order I never did receive, and much more to be so far degraded as to be turned out of my employ, imprisoned, and to lose a whole year's pay, besides other great charges attending a prisoner. Now whereas I have thus unjustly suffered to the value of £150 besides being degraded in the face of the world and all for the President's alleging I was a pilot for as much as I piloted the Duke home out of Scotland which granted truth yet that was afterwards. To all which I answer that I never was a pilot nor ever received pilot's wages or got 5d by pilotage and I am well assured HRH, whom God preserve and prosper, did not take me on board himself (out of my command) to degrade me, but for his own safety. Yet I can make it appear that I have saved HM above £500 in pilotage since first I had the honour to serve him, and hope I am never the worse man for so doing, which if I be thought shall then for the future leave directions for all mine never to learn coasting, rocks nor sands but be as the most part of the world nowadays are, or my late judges.

Having much more to say on this subject which for brevity sake I omit, but most particularly by reason of a good and gracious prince whom God of his mercy preserve and prosper with a long and happy reign over us, amen, who was well assured of my innocency and the great malignity used against me did therefore at the first hearing of the sentence against me (frankly without intercession) cause it to be reversed and restored me to every particular again as I was before.

I think it not amiss to mention one thing more of the Court to set forth their great malice against me in laying their heads together in a long debate not for an usual punishment to be afflicted on offenders but how to lay a punishment that might stick by me, for, said they, if we do but turn him out he is so much in favour with his prince that he will presently be restored, and the like if we do confine him to prison. Therefore we must inflict both these and lay a fine on him besides, nay, such a fine as it may not be in the King's power to take off which will stick to him. 'Who shall that be?' said one. It was answered that if I was fined to the same seamen belonging to the chest at Chatham, then the King could not take it off without laying down so much in lieu of the fine (O wonderful statesmen). So here may be seen that I was not to be punished according to law or justice if real guilty, but according to the highest of severity in a threefold way by them invented, and the pilot who was (ipso facto) guilty only imprisoned which I think doth shew forth sufficiently their partiality.

Pepys's attitude to the Court Martial can be seen in some of his naval minutes. In one he writes: 'Nothing more unnatural than that a Court Martial should be wholly made up of commanders, whether it be an officer or common man that is to be judged.'[1] Later he hints at further irregularities, especially the fact that no man was present at the examination of the witnesses, 'though myself was known by the court to have come on board the yacht on purpose to hear the trial as being one that had hardly escaped

1 Pepys's *Naval Minutes* (N.R.S.), p. 147.

bearing a share in the evil occasioned by Christopher Gunman and the pilot's misbehaviour on that occasion'. This presumably refers to the trial on 13 June, and it is interesting to see that Pepys brackets together the names of Gunman and Ayres without qualification. The minute continues in more general but no less significant terms, 'and very much to be bemoaned it is that the lives of those who miscarried had no more satisfaction exacted for them from the offenders than the sentences of those two courts provided, and was made good by the speedy indulgences of the Court at Whitehall'. It seems clear that Pepys did not have a very high opinion of Gunman.

* * * * *

We are now in a position to sum up. In the first place there is no evidence that Gunman was implicated in any plot against the Duke of York, for however irregular in Gunman's view the Court Martial was, it was not his loyalty but his efficiency which was under consideration. The proof would seem to lie in the behaviour of the Duke of York himself who would hardly have entrusted his pregnant wife and himself to Gunman for the return journey from Scotland if there had been any question of suspicion.

Secondly, there is the question of navigation. At this period charts and surveys were rather amateurish affairs and the successful navigators acted on their personal experience, it would seem, and even on intuition rather than on scientific principles.[1] Nevertheless, Gunman had made a name for himself in this field. There are several references to his survey work in the journals; for example, he made a draft of Sheerness harbour in 1672 and in 1680 he was closely concerned in the surveying of the harbours in Guernsey together with Bernard de Gomme, His Majesty's Chief Engineer.[2] Thus Gunman may have felt that his skill and general experience absolved him from obeying the letter of the sailing instructions, which in any case he seems to have thought inapplicable to himself because he was not an official pilot.

Thirdly, one side of Gunman's personality seems to emerge clearly from the documents. In spite of Evelyn's description which suggests mildness and sobriety, Gunman could be hot-headed and downright in his opinions which can be seen from his behaviour during the discussion before reaching

1 See the preface to John Seller's *The English Pilot*, 1671, for example.

2 It is interesting to note that the source for this information, The Channel Islands Survey of 1680, belonging to the Dartmouth family and now in the National Maritime Museum Library, with its magnificent title-page drawn by T. Phillips, military engineer, contains a reference to the wreck of the *Gloucester*. On the fly-leaf there are the words 'This book was on board the *Gloucester* ...(several words missing) in the D. of Y's passage into Scotland and after was found by a fisherman on the coast.' The pages have been remounted, but they show slight stains though the box containing the book must have been reasonably watertight. It clearly belonged to Colonel Legge whose arms and cipher appear on the title-page, a fact which no doubt assisted in its restoration to the family.

the Lemon and Oar[1] and particularly in the whole flavour of the 'cause'. Further evidence for this is contained in an incident[2] during the summer of 1679, when Charles II allowed Lord Bruce to travel to Antwerp in the Mary yacht under Gunman. The pilot who had been taken on board at Flushing was discovered to be drunk so Gunman was compelled to navigate the dangerous Scheldt estuary without help. At one point when the yacht seemed to be in danger Bruce intervened at which Gunman 'swore a bloody oath with some rude expressions'. This was tactless, for Bruce told him 'very fiercely' that he would not be drowned through 'his obstinacy and folly', and that if he persisted he would be confined 'in the bilboes', i.e. fetters, and his mate put in his room, and that Bruce would 'answer it to the King'. The journey ended without further incident and Bruce did not report Gunman, though three years later he seems to have regretted his leniency when he heard about the wreck of the *Gloucester*, 'for then perhaps he had not been appointed after to convey the Duke to Scotland'.

After the restoration of his command on 23 June 1682 Gunman's life returned to normal, for the $2\frac{1}{2}$ years left him are spent in the routine work the captain of a royal yacht might expect, itself an interesting side-line on the social life of the period. On 4 July 1682 he was sworn in Chancery before the Lord Chancellor, taking with him as witnesses John Frame a parish clerk presumably of Deptford, and Thomas Martin the sexton. This was relative to his new commission. On 15 August 1682 when the Duchess of York gave birth to a daughter we learn that Gunman gave each man on board the *Mary* 'a bottle of claret to drink prosperity to the Duchess and welcome to to our new princess', and five guns were fired to mark the occasion. Finally there are two more references in the journal to the hateful Court Martial. On 1 October 1682 we read: 'His Royal Highness commanded Sir Richard Haddock and myself to become good friends as we had been formerly and would not let us part until it was so agreed on of all sides, and shook hands together in the Duke's closet.' Gunman felt this to be so important an occasion that he noted in the margin 'Memorandum: Sir R. Haddock and I made friends'. Then on 5 December 1682 after the usual brief description of the weather there is the entry in brackets: 'Today His Majesty was graciously pleased to remit my fine of a year's pay laid on me the 23 June.'

1 See Gunman's *Journal* for 5 May 1682 and the letter to his wife in Hallam Moorhouse, *Letters of the English Seamen*, quoted in the first article.

2 For this incident see Earl of Cardigan, *The Life and Loyalties of Thomas Bruce* (1951), pp. 55–6.

NOTES

THE FIRST H.M.S. *OCEAN* (*M.M.*, Vol. 40, no. 1, p. 75)

The appointment of Alexander Fall, Carpenter of H.M.S. *Ocean* as Master Shipwright at Antigua, at a date which was two years prior to the launch of the *Ocean*, is indeed an intriguing problem, but one which seems to be capable of solution.

It was, I believe, the practice in those days for Warrant Officers, whose service had been long and meritorious and who were nearing the time for their superannuation, to be rewarded by being appointed to ships which were in the very early stages of their construction. I cannot quote any authority for saying this, nor do I know whether a carpenter so appointed would be expected to interest himself and assist in the building of the vessel, or whether he could regard the appointment as a sinecure designed to keep him on full-pay. We have further evidence that this was a common practice in a study of Alexander Fall's subsequent career, for Mr Knight tells us, in his article in the *Mariner's Mirror* for October, 1932, that Fall resigned from his job at Antigua in 1760 and that two years later he became the Carpenter of H.M.S. *Suffolk*. Now the *Suffolk*, which had been laid down at Rotherhithe in March 1761, was not launched until 22 February 1765, and by that time Fall had been superannuated for two years.

My theory, therefore, is that Fall, on nearing the end of his active career, was appointed to the *Ocean*, then on the stocks, as a reward for his long service, and a very short time afterwards was sent out to Antigua. Whether his resignation from this post was on account of personal reasons, or whether he had merely been given the job pending the appointment of a permanent Master Shipwright we do not know, but whatever may have been the cause, he was back in England in 1760. There is nothing to prove that Fall did not continue as the Carpenter of the *Ocean*, and I am inclined to think that he did in fact hold this appointment until the ship was ready for sea. He was then made the Carpenter of the *Suffolk*, laid down in the previous year, in order to tide him over until his superannuation in the following year.

The second part of Mr R. C. Anderson's problem concerns the date on which the *Ocean* received her name. The Progress Book is quite definite on this point and records that an Admiralty Order dated the 19 March 1759 named the ship *Ocean*. This date, which was two months after Fall had been appointed to her, disproves the theory that the new ship commemorated the capture and burning of the French ship of the same name in August 1759, although I agree with Mr Anderson as to the extraordinary coincidence of the choice of a name previously unknown in the R.N. being justified off Lagos a few months later.

W. P. TROTTER

HELP WANTED

Before the 1939 War our Society did much valuable work recording the lines and sail plans of numerous types of vessels, which were on the point of extinction. Since the War, however, the subcommittee, which had been formed to organize the collection of these lines, has ceased to function for various very good reasons. But there is much work yet to be done on a number of small vessels, open boats and the like, which still exist but whose days are numbered. If, however, they are taken in hand now they would be found to be in sufficiently good condition to have their lines recorded. I would, therefore, first ask any member who knows of a local type, whose lines have not been taken, to try and get them drawn locally or do them himself; failing that, I suggest he should write to the Hon. Secretary and let him know that the vessel is in being. Secondly, any member who feels capable of taking off the lines, and is willing to do so, should, before visiting a likely district, ask the Hon. Secretary if he knows of any particular type in that part of the world,

which deserves recording. To help the novice in this work the *Mariner's Mirror* for January 1935, printed an excellent account of how to take off a vessel's lines.

I feel that time is getting very short, and it would be a great pity if the good work, which the Society has done already, was not properly completed.

H. OLIVER HILL

LAUNCHING CEREMONY

Though I have met with no direct reference to the ceremony referred to by Mr Ingram (of drinking the ship's health in a silver cup and throwing the cup overboard) a possible indirect connexion may be found in a Sergison document contained in SER/100, f. 15. This document is a rough draft, undated but, from its position in the volume should probably be assigned to the month of May 1693. It is a reply to an inquiry as to what exactly is comprised under the heading of 'Wear and Tear' in the naval estimates. The Navy Board reply is to the effect that, though nothing has ever been laid down, the following is a list of what has hitherto been included. Then follows a list of some thirty items covering a wide range of expenditure including such diverse matters as the cost of repairing a first-rate and charges for supplying medicine for the sick. Among them is an item 'Plate given to the Master Shipwrights for building new ships'. It is not unlikely that the present may have taken the form of a silver cup and that, by that date, it had been decided that a better use might be made of a silver cup than throwing it overboard. Another possible reason for abolishing the custom may have been the the scenes which one could imagine must have taken place when a swarm of spectators in boats converged on the spot in the hope of fishing up the ceremonial goblet.

R. D. MERRIMAN

THE ENGLISH DOGGER

In the November 1954 issue of the *Mariner's Mirror*, Mr G. J. Marcus wrote a most interesting article entitled 'The English Dogger' in which he mentions that—'*Nothing is known about either its construction or rigging*'.

As I was recently doing some research on fishing craft of Northern Europe I came across information which may, I hope, throw some light on this elusive type of boat. The following notes are translated from the French book by E. Dardel, entitled *La Pêche harenguière en France* (Paris, 1941): 'We have tentatively assumed in these notes that the terms—*Drogueur*—*Doghboot* and *Dogger* refer to the same craft'.

'In the 16th Century, and in the beginning of the 17th Century, there were in Dieppe about one hundred large "Drogueurs" which left in July for the fishing grounds located about 200 lieues (119 miles) North, and thereafter came further South for the Yarmouth fishery.'

Dardel also writes (p. 64):

'The fishermen of Picardy and Normandy fitted out for the salt-herring fishery, in the 16th and 17th centuries, craft of 50 to 100 tons called "Drogueurs".'

He gives the following particulars for the Drogheur 'Vierge de la Paix' from St Valéry sur Somme. Length of keel 38 ft. (11 m. 60). Greatest beam 14 ft. (4 m. 60). There were two decks. The deck height was $5\frac{1}{2}$ ft. (1 m. 70) between the upper and tween deck and 4 ft. hold depth. He also states that the hull had a small freeboard (ponte fort bas) and square stern to facilitate the handling of nets. It was rigged with two masts, fore and main each carrying a square sail. The mainmast had a height of 50–56 ft. and a yard of 21 ft. The foremast 30 ft. The mainsail required 36–37 'ell' of sailcloth. The foresail (called 'Bourset') 8–10 'ell'.

The particulars given by Duhamel du Monseau in the *Traite General des Peches* (Paris, 1769) for the same type of boat are: length overall 35–40 ft.; length of keel 34–36 ft.; beam 12–13 ft. Depth 5–6 ft.

Regarding the rig there is an illustration in Van Konynenburg's work, *Naval Architecture Throughout the Ages* (Vol. II, p. 52) which shows a 'Doghboot' with two masts and square sails similar to that described by Dardel for the 'Drogueur'.

There was also in the seventeenth century a smaller type of herring boat used by the French and called '*Crevelle*' (probably a corruption of Caravelle) with a tonnage of 20–25, which was increased to 35–40 tons in the eighteenth century. This smaller type was used in the Channel and near-by waters.

R. DE KERCHOVE

THE CHATHAM CHEST

Enthusiasm is natural at the recovery of an old document bearing on a subject which has been under discussion in our own day. The writer of the note headed 'Historical Revision—The Chatham Chest' seems a little carried away with enthusiasm for the document she has found at the National Maritime Museum. After all, this account book (which Oppenheim used in his *Administration*) only covers the last four of the early Stuart and three first years of the Interregnum, and therefore should be used with discretion when attacking the essay written by the late Isobel Powell, which was intended to cover the whole early Stuart period. Thirty-three years ago Miss Powell was probably not so very old, but even at that time she was obviously a well-trained student in history. Had Miss Ann P. Male read her essay with a little more care, she would then have been saved from the error of supposing that the 1617 inquisition at Rochester Castle was the first attempt at the reformation of the *Chest*.

In 1608 there was a Royal Commission to enquire into the state of the Navy. The commissioners seem to have left the report on the *Chest* to Sir Robert Cotton whose name is better known to us through his collection of manuscripts at the British Museum. From him we learn that within twenty years of its institution its intention 'is not only altered and corrupted, but in effect quite overthrown', going on to say that since the death of Sir John Hawkins no Treasurer, except Sir Fulke Grevyll, has rendered any account to those who by the first intention were to have had the disposal of the funds. He says Sir Robert Mansell, the Treasurer of that day, while duly collecting the seamen's contributions at the monthly pay: sixpence from an able seaman, fourpence from an ordinary seaman and threepence from a boy, did not deliver the money to the *Chest*, and angrily refused to give an account. It was known, however, that some had received as gifts and others had borrowed money from this sailors' fund. 'Thus. . . that which should sustain only the poor and impotent and no other, is perverted. . . . It is lent by those who have no authority and borrowed by those that have no need.' People who had not paid a halfpenny into the *Chest* were using it for their own ends. The report is easy to read and should be read. .Reference is PRO. SP 14/41, f. 25.

Returning to the 1617 *Inquisition*: it would seem that the Chatham Dockyard paper now in the National Maritime Museum is a copy of only part of a longer document to be found amongst the *Proceedings of Commissioners for Charitable Uses*, which is C/93/7/7 at the Public Record Office; which is contemporary. This puts an entirely different complexion on the matter of the state of the *Chest*, to that given by the Chatham Dockyard Paper, belonging (I suspect) to 1803. This from the contemporary paper: 'Great sums have been collected which should have been put into the *Chest*. . .and notwithstanding that a great part hath been charitably and orderly bestowed, yet many other sums of not small moment. . .have been detained or lent out and do still remain.' Then follows a list of names of those who owe money to the *Chest*: Sir Peter Buck, Kt., one of the Principal Officers of the Navy, £100; who also confessed that he had been retaining £7. 17*s*. 10*d*. pension to a boatswain, while he lived. Two Master shipwrights, Bright and Phineas Pett, each £100; Alderman Butcher and Robert Cosyn also £100 each. There were two other worthies owing larger sums: Roger Langford, Gent, owed £328. 15*s*. 6*d*., and Sir Thomas Middleton £321. 1*s*. 6*d*., 'collected from seamen of the West Indian voyage wherein Sir John Hawkins and Sir Francis Drake died'. With several smaller sums added, the total debt to the Seamen came to between thirteen and fourteen hundred pounds in 1617. Miss Powell showed that twenty years later the debt had increased to £3780. 0*s*. 1½*d*; this included three thousand pounds which another worthy, Sir Sackville Crowe had borrowed. With funds so much depleted, the awards must have been lessened, and it seems to me that Isobel Powell was not very blameworthy for writing: 'The distribution of awards at this period can hardly be termed satisfactory'.

There is one passage missing from the Chatham Dockyard paper which is to be found in the original document, telling us how the *Chatham Chest* was established 'by the incitement, persuasion, approbation and good liking of the R^{t} Hon: Charles E. of Nottingham, then Lord High Admiral of England'.

GREGORY ROBINSON

THE LIGHTING OF POOP LANTERNS

Some months ago a letter in one of the Sunday newspapers from Mr W. O'Dea, Keeper of the Science Museum South Kensington, caught my eye. He wrote that, in spite of extensive enquiries, both at home and abroad, he had never been able to discover what sort of illuminant was used in the great poop lanterns of the seventeenth- and eighteenth-century warships. This surprised me.

My mind turned to the lighthouses of the eighteenth century, and I found that Smeaton—who was the first to use any form of illuminant other than coal fires—placed within the lantern of his 1750 Eddystone lighthouse, a Chandelier, holding 24 tallow candles, each of which weighed $\frac{2}{5}$ of a lb. and emitted a light of 2·8 candle-power. The aggregate illuminating power was 67·2 candles, and the consumption was 3·4 lb. per hour.

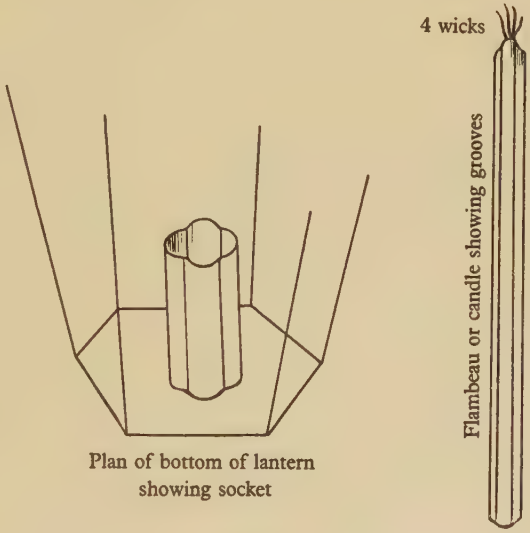


Fig. 1

Coal fires for lighting continued well into the nineteenth century, that at St Bee's in Cumberland up to 1823, and at Nidingen in the Kattegat till 1846.

I suggested to Mr O'Dea that tallow candles was the answer to his question. He could not agree. The Eddystone candles, he said, needed snuffing every half hour, and access to the lantern was from below. Poop lanterns, on the other hand, opened on to the deck, and, in his opinion, the candles would be blown out every time the snuffer opened the panel of access.

This did not seem to me to be an insuperable objection to the use of candles, for some form of canvas wind screen could easily have been improvised.

However, as an alternative, Mr O'Dea suggested that 'flambeaux' made on shipboard, from rope, tar, and tallow might have been used. According to him, such flambeaux are practically unextinguishable by wind, they need great lantern space, but are not unduly smoky.

The size of poop lanterns may be judged by one carried by a First Rate in 1717. It was 8 ft. 2 in. high, and 4 ft. 2 in. in diameter.

Pepys mentions one, in which he and four or five ladies could stand in comfort.

After a further exchange of letters with Mr O'Dea, I began writing to various friends who might be interested, and also to the curators of several continental Naval Museums, notably those in Madrid, Barcelona and Venice.

From *L'Encyclopédie Méthodique*, 1785, under the Article 'Fanal', I learnt, 'Le Fanal de poupe est très grand. . . : on se sert de grosses bougies jaune lorsqu'on veut mettre de la lumière dans ce fanal'.

That seemed pretty conclusive. 'Grosses bougies jaune', could only mean big yellow candles: but Mr O'Dea was not altogether satisfied. He held that 'Grosses bougies jaune' also covered his flambeaux.

From Commandant de la Roërie of the French Navy (through Mr D. L. Dennis of St Paul, U.S.A.) I learnt that in J. de Lévy's *Voyage au Bresil* in 1598, mention is made of tallow (*suif*) candles used in the poop lanterns.

In 1670 Colbert had experiments made with oil lamps. Results are unknown, but presumably were unfavourable, as wax candles continued to be used.

Those used at the time of Louis XVI weighed 1 livre each, and cost the Government 2 livres 6 sols in 1786.

1 livre (weight) = 1·08 lb.
2 livres 6 sols (money) = 41·4 pence.

This seems very expensive, and can only have been for the finest yellow wax (beeswax?) then known. The price of beeswax today is about 10 shillings per lb.

The next item of information on poop lanterns came from the very courteous and erudite head of the Musea Storico Navale of Venice, Sig. G. B. Rubin de Cervin. He found a huge sixteenth century bronze hexagonal lantern from the Albrizzi collection (presumably once belonging to the Provveditore's Galley, or Galleasse) which bears an iron socket 'into which only candles of some sort could have been set, and precisely four in number'.

Here was really something to go on, and I joyfully forwarded Sig. Rubin de Cervin's letter, and his admirable drawing of the socket to Mr O'Dea.

He immediately spotted that the socket was not for four candles at all, but for one large 'flambeau' having four wicks, and produced as evidence a plate from Diderot (about 1760) giving the exact shape, size, and method of construction of these flambeaux.

They were in fact just very large, four-wicked candles with four grooves cut in them for their whole length to act as runnels for the melted wax.

Diderot's flambeau, it may be said, was a 'flambeau de poing' or hand torch such as are used in processions, and there is no positive evidence that it was ever used on board ship, though something very like it apparently was, in Venice at any rate.

I remember carrying one of these 5 ft. long, by 3 in. thick candles in a magnificent silver candlestick through the streets of Old Vigo at, I think an Easter procession, when I was a midshipman, some sixty years ago. Only important individuals were chosen as candle bearers, and I was the Officer in command of the Naval Church party.

A. MACDERMOTT

'SHORE' LEAVE

In the latest sensational naval novel 'featuring' the troubles of a cruiser employed on arctic convoys, in the late War, the first few pages contain references to 'on a ship', 'bootnecks' and 'shore leave'. 'Bootnecks' apparently means Royal Marines and if genuine it must be quite a modern version that has taken the place of 'leather-necks'. The expression 'shore leave' seems to have crept into the Royal Navy through some vicious source, being most prevalent in the Press of to-day. I question whether the expression 'shore' leave was ever used in the old days, and it

seems to me that leave would not be much use unless one could go ashore. The signal book dealt with such things as 'General leave to the watch', 'Special leave to the watch', 'The usual leave may be granted to officers' and so on. Station and Port orders referred to the arrangements for such things as paying-off leave or Christmas leave. Nowhere do we find 'General *shore* leave to the watch', or arrangements for paying-off *shore* leave, and so on.

The only sort of leave which did not connote going ashore was that abomination of the executive officer known as 'lower-deck leave', sometimes indulged in on board a vessel in dockyard hands, whereby ratings spent their period of general leave in their messes and did no work. Can any member say whether 'shore leave' is a true naval expression?

H. P. MEAD

THE KEELING MEMORIALS IN CARISBROOKE CHURCH

The career of William Keeling is briefly given in the *Dictionary of National Biography*, where sources are quoted which provide the reader with details about voyages undertaken by Keeling as naval commander and agent of the East India Company. The purpose of this present article is to furnish some information on Keeling's memorial in Carisbrooke church or, more accurately, on two memorials to this adventurer.

After Keeling was appointed commander-in-chief of all the English in India and was refused permission to have his wife and family with him, he came home in or about the year 1617, but not before he had secured important trading concessions from the king of Acheen and had established a factory at Ieko on the west coast of Sumatra. Shortly after his return to England, Keeling was appointed captain of Cowes Castle with the right to levy a penny per ton on every vessel that passed Dungeness Light. The author of the article in the *Dictionary of National Biography* suggests that this right was obtained, apparently, in 1620, but if that is true, the income was not enjoyed for long as Keeling died in October of that year at the comparatively early age of 42. His resting place is in the nave of Carisbrooke church and is marked by a brass plate bearing his coat of arms affixed to a much older slab from which the original brasses have been reaved.

But this simple brass plate is not his main memorial. On the north wall of the nave hangs a framed panel composed of two oak boards forming a rectangle with a triangular head. The overall dimensions of this panel are $36\frac{3}{4}$ in. from top to bottom and $20\frac{1}{2}$ in. wide. Exclusive of the moulded frame, the panel is 16 in. in width and 26 in. to the base-line of the triangle. The panel is painted black on back and front; the frame is black with a whitish band enclosed by two narrow gold fillets. On the white band are painted twenty-one symbols of mortality including a skull with a snake crawling through the eye-sockets, crossed femurs entwined by a snake, shrouds, death's-heads crowned or encircled with laurel or bay wreaths, palm branches, crossed picks and shovels, and various other combinations of a macabre nature.

The top, or triangular, portion of the panel is occupied by a central roundel consisting of an elaborate gold cartouche enclosing a ship. It is a fanciful vessel with Death carrying a dart and a banner inscribed POST MORTEM at the helm; amidships is a seated bearded figure (presumably Keeling) and in front of him a book bearing the words VERBUM DEI; at the stern a helmeted female holds out the victor's wreath, and above her is a banner with the legend FAMA SEQUATUR. The furled sail is inscribed FIDES; at the top of the mast is the word XPS; on the side of the vessel is written CARO. There is a complement of three cannon. This painting is executed entirely in grisaille, and is placed between four small golden cartouches bearing shields of arms as follows:

(*a*) *Argent three scaling ladders in bend gules* (for Keeling), impaling, *Gules a cross engrailed argent* (for ?Middleton).

(*b*) Keeling (as above).

(*c*) Keeling (as above), impaling, *Sable on a chevron argent three broom sprigs slipped gules, on a canton of the second a spear's head azure embrued of the third* (for Bromfield).

(*d*) Bromfield (as above).

The lower two-thirds of the panel contain this fulsome epitaph which, we suggest, does not really show the subject in his true colours:

HEERE LIETH THE BODDY OF THE RIGHT WORTHY
WILLIAM KEELING ESQVIRE GROOME OF THE CHAMBER TO
OVR SOVERAIGNE KINGE IAMES GENERALL FOR THE HON EA-
ST INDIAE ADVENTVRORS WHETHER HE WAS THRICE BY
THEM IMPLOYD AND DYINGE IN THIS ISLE AT THE AGE
OF .42. AN° 1619. SEPT .19. HATH THIS REMEMBRANCE
HEERE FIXED BY HIS LOVEING & SORROWFVLL
WIFE ANNE KEELING
FORTIE AND TWO YEARES, IN THIS VESSELL FRAILE
ON THE ROVGH SEAS OF LIFE DID KELING SAILE,
A MERCHANT FORTVNATE, A CAPTAINE BOVLD,
A COVRTIER GRASIOVS, YET (ALAS) NOT OLD.
SVCH WEALTH, EXPERIENE (*sic*), HONOVR & HIGH PRAISE
FEW WINNE IN TWICE SOE MANIE YEARES OR DAIES.
BUT WHAT THE WORLD ADMIRD, HE DEEMED BVT DROSSE
FOR CHRIST; WITHOVT CHRIST ALL HIS GAINES BVT LOSSE.
FOR HIM, AND HIS DEAR LOVE, WITH MERRIE CHEERE
TO THE HOLY LAND, HIS LAST COVRSE HE DID STEERE.
FAITH SERVD FOR SAILES, THE SACRED WORD FOR CARD
HOPE WAS HIS ANCHOR, GLORIE HIS REWARD,
AND THVS WITH GALES OF GRACE, BY HAPPIE VENTER,
THROVGH STRAIGHTS OF DEATH, HEAVENS HARBOR HE DID
ENTER

Although the painting displays a certain amount of skill, it was (like the verses above) the product of a local artist. The painter may have been a good copyist, but was not, apparently, one who excelled in spelling or in correcting the spelling of others. The heraldry on the panel indicates that Keeling was twice married, first to a lady who has not been identified,[1] and secondly to Anne Bromfield whose brother was one of the overseers of Keeling's Will.

There is a discrepancy in the date of Keeling's death as recorded on the panel where he is said to have died on 19 September, 1619, but as his Will was dated 6 October 1620[2] and proved in the Prerogative Court of Canterbury[3] on 20 November following, he probably died on 20 October 1620. Unhappily, the page of the Carisbrooke parish register which would have confirmed the date is missing.

Keeling's Will is not without interest. In it, he describes himself as 'of the Parke Within the parishe of Karisbrooke in the Isle of Wighte in the Countie of Southampton Esquire', and 'sicke in bodye but of good and perfect memorye'. He commends his soul 'in to the handes of Almightie

1 There is no documentary evidence that Keeling ever married into the Middleton family although he was closely associated with Sir Henry, merchant and sea-captain, who died in 1613. Middleton's life is given in the *D.N.B.*, and *The Voyage of Sir Henry Middleton to the Moluccas, 1604–1606*, edited by Sir William Foster for the Hakluyt Society, 1943, is indispensable for any study of him. The arms, *Gules a cross engrailed argent*, are borne by several families including those of Middleton, Legh, Keme, Englethorpe, Bloyon, Brockhill, and Norley; perhaps some ardent genealogist will be successful in tracing Keeling's first marriage. Or was the Keeling-Middleton association so close that the two men were 'joined in arms' as part of the symbolism on this memorial?

2 Not 16 October as stated in *D.N.B.*

3 Reference 190 Soane.

god the father whoe created me of nothing and to oure Lord Jesus Xpiste[1] (*sic*) his onlie sonne whoe hathe redemed me out of the handes and power of Sathan and to the holie ghoste the Comforter giver and sanctifier of all goodnes beyng three persons but one immortall invisible and onlie wise god to whome be ascribed all power praise glorye and Dominion bothe nowe and for ever more Amen.' Keeling bequeaths his body 'to the Earthe from whence yt was taken there to remayne untill the second Comming of o^r^ Lord Jesus at which tyme I hope and assuredlie beleve y^t^ shalbe raysed up by hym and enter into everlasting glorye with hym.' Following these expressions of faith, Keeling directs his body to be 'buried within the parishe churche of Carisbrooke aforesayed under or neere unto the Communion table (yf yt may be) or els in some convenient place of the sayed Churche without any solemnitye. And I will that my Executrix hereafter named shall cause a Tombe stone of Marble to be layed over my bodie there at her discretion.' This last request was observed but, be it noted, the marble slab was a second-hand one! The sum of £5 was left by Keeling to the poor of Carisbrooke, £20 to his maidservant Mary Northe, 40*s*. each to his servants Elizabeth Giffard, Isaac Bartholmewe (described as a female), Robert Davis, John Turnell, and his keeper, George Lawrence; a similar sum was left to 'my newcome servant', Michaell Evans, 'in regarde of his Dutifull attendaunce on me in my sicknes'. These bequests reflect something of Keeling's status and extent of his household.

The Will goes on: 'And forasmuche as my worldlie estate is myngled and Dispersed abroade in the East Indies and other places And I having a stocke goyng with the English Marchauntes of the East Indian Companye And moneys beyng often tymes payed in and some receyved fourthe by reason whereof my sayed Estate is not nowe knowen certainely to any: And yet beyng Desirous to leave the same whatsoever yt be togeather with my children unto my moste Deere and best beloved wife Anne Keeling to be ordered and disposed of by her at her best Discretion I do therefore give and bequeath unto my sayed wife All my goodes and Chattells bothe moveable and unmoveable Reall and personall and all my gould silver plate Jewells moneys houshould stuffe bondes Billes Credittes Duties and Demandes and allso all my Whole estate.' The widow, Anne Keeling, was appointed sole executrix, but if she died before she could retire to London and settle herself there and before she could prove the Will, then Keeling appointed his brothers-in-law, Edward Bromfield and Thomas Overman, leathersellers of London, as executors and trustees for his children of whom only Edward, the eldest, is named. Bromfield and Overman were, in any event, appointed overseers of the Will, and each was to have marks 'to make either of them a Ryng of gould to weare in remembraunce of me'. The children were 'to be broughte up in the feare of god and in good education and learning'. So much then for the worldly estate of this hardened captain whose name is perpetuated in the Cocos-Keeling Islands which he is said to have discovered.

Commemorative panels of the type described above were the subject of a long paper by the present writers in the *Antiquaries Journal* (1955), Vol. xxxv, pp. 68–87, where the opinion was expressed that such panels derive from the funeral escutcheons hung on hearses at medieval funerals. From these panels developed the large, anonymous hatchments (normally lozenge-shaped) which are found in many churches[2]; painted heraldic panels of the Keeling type are, on the other hand, relatively scarce, and only some sixty examples were noted in the paper in the *Antiquaries Journal*. While that list did not claim to be exhaustive, comparatively few additions have been brought to our notice, and none in England are so rich in emblematic decoration as the one at Carisbrooke.[3] Another feature of special interest is the rarity of a panel and permanent memorial to the same person surviving together; so far, only three examples are recorded. One is in Salisbury Cathedral (Mary Barnston, 1645);[4] the second is the magnificent panel to Margaret

1 The letter 'p' is no doubt intended for the Greek ρ, but is in any case superfluous.

2 Two fine seventeenth-century hatchments (one dated 1661) may be seen in Carisbrooke church.

3 So far as be ascertained, this panel has not been described in detail elsewhere, and thanks are due to Mr Edward Ingram, F.S.A., for bringing it to our notice.

4 Illustrated in *Antiquaries Journal*, Vol. xxxv, Pl. xxi.

Carre (née Wauchop) now in the National Museum of Antiquities of Scotland;[1] the third is the Keeling panel and brass in Carisbrooke church.

T. D. S. BAYLEY AND FRANCIS STEER

THE DOLPHIN-STRIKER

It has often been noted that the first *dated* appearance of this spar, both in England and in America, was in 1794, when it is shown in one (and only one) of the plates in Steel's *Elements and Practice of Rigging and Seamanship* and in Truxtun's *System of Masting*. About 40 years ago I saw a drawing by Pocock dated 1794 and showing a dolphin-striker, and now, for the first time, in a book published during the war of 1914, I have noticed another of the same date. This is reproduced in Chatterton's *The Old East Indiamen* (p. 250) and shows the East India Company's snow *Panther* off Suez on 15 August 1794. The drawing is said to have been made by a midshipman on board and to have been taken from his journal.

Dolphin-strikers are, I believe, shown in certain paintings of American ships in the Pacific illustrating events of 1791 or 1792, but I am not sure whether these were actually painted quite so early. In any case, if the new fitting was in use on both sides of the Atlantic and in the Indian Ocean by 1794, we can be sure that it must have appeared in its original home several years earlier. How many years would this 'diffusion' take? That is, if we follow the anthropologists in preferring the doctrine of diffusion to that of 'like causes—like effects'.

Assuming that it was a case of diffusion, whence did it start? The end of the eighteenth century is a bit late for looking to Egypt as the source of everything, even if we take the Suez drawing as the first of three almost contemporary pieces of evidence; but India would at least be a centre from which the new fitting could easily find its way to England and, via China, to American ships in the Pacific.

R. C. ANDERSON

FORE AND AFT SAILS IN THE ANCIENT WORLD

The bas-reliefs produced by Mr Lionel Casson (*M.M.*, Vol. 42, No. 1) are very interesting, but I certainly fail to agree that they 'unquestionably' bring 'undisputable proofs' that the whole picture of the appearance of the lateen sail in the Ancient Mediterranean needs 'a drastic revision'. I beg to retain adhesion to the generally admitted opinions in the matter, namely, that the first known picture is of a lateen sail the one in Saint Grégoire de Nazianze's Sermons (Paris, Bibl. Nat., m.s. Grec. 510) of *c.* 880, brought to light by H. H. Brindley (*M.M.*, Vol. XII, p. 1) in his vain quest for the picture given by Jal under an erroneous reference: and that the first literary evidence is found in Procopius's *Vandal War*, Vol. I, p. 13 (J. Sottas, *M.M.*, Vol. XXV, no. 2, p. 229). I fully agree with L. G. Carr Laughton's suggestion (Vol. XXV, no. 4, p. 441) that the lateen was a comparatively new thing to the Greeks *c.* A.D. 533, as well as with Mr H. Dolley's (Vol. XXXV, no. 1), that the generalization of the lateen was most likely due to the Arabs.

Mr Casson's pieces of evidence seem to me the opposite of incontrovertible ones. I feel unable to give much credence to such schematical pictures of ships, in which many essential items of standing or running rigging fail to appear, while hull particulars wander according to fancy. Plainly the works of artists who were not concerned in giving accurate pictures of ships.

The 'spars' in plate I, figs. 1 and 3 are nothing more than the braces; the progressive transformation can be observed in various categories of pictures, namely in medieval seals. I remember H. H. Brindley admitting that he was misled, when he saw, in such 'symmetrized' braces, the spars of a twin sprit (Vol. XII, no. 2, p. 215), notwithstanding the fact that twin sprits are known to have existed (e.g. in the Portuguese *barcos rabaos*).

I absolutely decline to give credit to a piece of evidence like fig. 2, pl. I, where mast and sail are just roughly outlined, while all other items in the rigging are simply omitted. The yard has

1 The memorial to Margaret Carre (died 1709) is in the Nesbit Chapel at Nisbet House, Berwickshire.

been omitted like the rest, that is all, and the fore half of the sail as well, because there was no need of it properly to fill the frame of the bas relief, and hardly any room to accommodate it; the upper side of the sail has been given a curved shape from analogy with the leech; likely the artist was reminiscent of a set of square sail with a supparum above it; he altered the slope to have the two upper corners along a horizontal line, to match the upper side of the bas-relief's frame, whereas an oblique line there would have looked clumsy and against the natural rules of decorative composition.

In fig. 4, pl. II, I fail to see the 'diagonal sprit'. The three ropes dangling from the yard arm need not be understood as vangs; according to the usual ways of naïve artists they are more likely the result of a proliferation of the brace.

As regards the Miletus tombstone (pl. II, fig. 5), the reliability of the document is no better. The man pulling at a brace, a not uncommon feature in simplified nautical iconography, has been evolved here into one holding a stick (a not uncommon avatar: it is to be found in ancient Egyptian pictures). When the late Pierre Paris had in the making his masterly study on the origins of the lateen sail,[1] he agreed with me that the said tombstone could hardly be retained as evidence. It is not the least bit realistic. The reason why the artist gave his schematic yard its curved shape seems to me plain enough: he wanted to have it harmoniously enclosed in the relief's framing. Such influences of the shape of the area receiving the decorative scene are a common feature of nautical—or other—iconography: the seals afford but the extreme illustration of the fact. (And it leads, not unfrequently, to puzzles, when a later copyist reproduces the picture in another composition lacking the moulding frame.)

All this does not mean my adhesion to the age-old thesis according to which the ancients did not know how to sail otherwise than before the wind. One naturally feels shy of challenging that opinion which has long been sponsored by nautical archaeologists, but it has always seemed to me hard to explain how experience failed to show these ancient sailors that one could sail on a wind. It would mean that chance never allowed them to build and rig a ship with a griping tendency, which is, I suppose against all the rules of mathematical probability. But sailing on a wind could well be achieved by means of square sails. Maybe new materials will be unearthed showing that they knew some type of fore and aft rigging also. But, for the time being, I hold that reliable evidence as to the origin of like rigging does not go beyond what is mentioned in the first part of the present note.

L. GUILLEUX LA ROËRIE

THE EARLIEST LATEEN SAIL

Recently Professor Lionel Casson has shown that the spritsail was known to the ancients of the Eastern Mediterranean during Roman times in the early centuries of the Christian era.[2] Professor Casson has produced not just a single representation of the early spritsail, but rather he has come up with four examples reaching from Ostia, the ancient port of Rome, to Asia Minor. I regard this 'discovery' as one of the most important advances in the history of the sail in at least a quarter of a century, if not longer. The remarkable thing is that the knowledge that the Greeks and the Romans used the spritsail during Roman times should have been lost for so long. A photograph of one of the illustrations had been published before, but, as Professor Casson has pointed out, the sprit did not show. Moll published a drawing of this, but he likewise left out the sprit.[3] As Professor Casson points out, the evidence for the early use of the spritsail is certainly incontrovertible.

Professor Casson has also published an illustration of what might appear to be a lateen sail on a

1 'Voile Latine? Voile Arabe? Voile Mystérieuse', in *Hesperis*. Année 1949, 1st and 2nd quarterly issues, Paris 1949.

2 L. Casson, 'Sails of the Ancient Mariner', *Archaeology*, Vol. VII (1954), pp. 215–19; L. Casson, 'A Sea Drama in Stone', *American Neptune*, Vol. XV (1955), pp. 217–19; L. Casson, 'Fore-and-Aft Sails in the Ancient World', *M.M.*, Vol. 42 (1956), pp. 3–5.

3 F. Moll, *Das Schiff in der bildenden Kunst* (Bonn, 1929).

second-century A.D. tombstone of Alexander of Miletus found near Athens (Fig. 1 *a*).[1] An illustration of this tombstone, which is in the National Museum in Athens, has been published by Moll (Fig. 1 *b*).[2] Professor Casson's and Moll's illustrations are not of the same work. Professor Casson's illustration, as he informs me, was a photograph not of the original but of a reproduction that was made for and displayed during the Augustan bimillennial celebration held in Rome in 1939.

Fig. 1. Boat on the tombstone of Alexander of Miletus found near Athens. The original dates from about the second century A.D. (*a*) is drawn from a photograph of a reproduction made for display in the Augustan bimillennial celebration in Rome in 1939; (*b*) is drawn from a photograph of the original. As can be seen from the original, the sail of this boat is a dipping lug with a short luff. The reproduction makes the sail look like a lateen, which it definitely is not.

To enumerate the differences in the two illustrations. The shape of the swan necks differ, the shape of the bows differ, the man in Casson's does not have any legs below the knees, and many other proportions and smaller details differ. The most important difference is the fact that in Casson's illustration the yard runs all the way to the gunwale and makes the sail look like a lateen. In Moll's illustration, the yard stops some distance from the gunwale so that the sail is *definitely not a lateen*. The reason for the error in Casson's yard is evident. The edge of the luff of the sail was shown as a continuation of the yard. I have put myself on record several times as holding that the earliest known example we have of the lateen sail is from the ninth-century miniature Grec. 510 in the Bibliothèque Nationale.[3] This still seems to be our earliest record.

I had previously examined Moll's illustration of Alexander of Miletus's tombstone and dismissed the sail as a crudely drawn square sail. I decided on this interpretation because it was generally acknowledged at the time that the Greeks and Romans did not know any better sail than the square sail during Roman times. Professor Casson's early spritsails now change this. Thus the sail shown on Alexander of Miletus's tombstone would appear to be a lug sail with a short luff. I know of one other similar sail in Roman times. This is also shown by Moll, and is from a first-century Pompeiian wall painting.[4] This also seems to show a short-luff lug sail.

1 L. Casson, *M.M.*, Vol. 42 (1956), pp. 3–5.

2 Moll, *op. cit.*, plate B II, fig. 108. Professor L. Casson has informed me that this illustration was taken from A. Conze, *Die attischen Grabreliefs* (Berlin, 1893–1922).

3 R. LeB. Bowen, jr., *M.M.*, Vol. 40 (1954), pp. 315–20.

4 Moll, *op. cit.*, plate B XI *a*, fig. 32.

Similar lug sails with a short luff have a wide distribution in the Mediterranean to-day and stretch along the Atlantic coasts as far north as Spain. Thus we find the short-luff dipping lug in Armenia at the very eastern end of the Black Sea.[1] I found evidence of this sail in 1954 in Maiori on the Sorrento Peninsula in Italy. Smyth has shown such a sail at Brindisi in the heel of Italy.[2] In addition to the Atlantic coast of Spain, these short-luff lug sails are also found on the Island of Madeira.[3] There seems a good possibility now that the majority of these sails may have been used for over 1700 years.

By now stating that the lug sail was known to the ancients of the Mediterranean during Roman times, I am certainly contradicting certain statements which I have made about the lateen sail in the past in both the *Mariner's Mirror* and the *American Neptune*. In a discussion of the lateen sail I pointed out that the Arabs have never used the purely triangular lateen and that further there is no proof that the lateen of the Arabs (short-luff dipping lug) was ever used in the Indian Ocean before the arrival of the Portuguese.[4] I demonstrated that the Arab lateen and the Mediterranean triangular lateen had various similarities which definitely indicated a common origin for the two sails from the square sail.[5] There is no boom at the foot of the sails, they have vertical leeches and seams, and the yards of many are hung from the centres. I concluded that the Arab lateen with its short-luff must have developed some time before the seventeenth century A.D. in the western Indian Ocean and that it led to the triangular Mediterranean lateen.[6] Certain of these statements were repeated in the *Mariner's Mirror*.[7]

The identification of lug sails in the Mediterranean during Roman times necessitates that these theories be changed. It is still clear that the dipping lugs of the western Indian Ocean and the lateen and lug sails of the Mediterranean have common origins for the reasons listed above. Further, the sails of the western Indian Ocean stand out as exceptions among all Eastern sails in not having booms at the foot.[8] All these Eastern sails with booms have an affinity with the ancient Egyptian sails with booms, and were originally derived from these or similar sails.

Thus it seems that the dipping lug with a short luff was introduced to the western Indian Ocean during Roman times by Greek Alexandrian merchants who were carrying on the India trade for the Roman Empire. It seems that the triangular lateen sail was evolved in the Mediterranean some time before the seventh or eighth century A.D. and spread westward in the Mediterranean by the Arabs. There is a chance that the Arabs themselves may have modified the short-luff dipping lug to the triangular lateen. When a dipping lug with a short luff has its tack set up strongly forward the sail appears to be triangular from a distance. Such a sail could be easily copied as a triangular sail.

Dr Jules Sottas attempted to show that lateen sails were in use in the Mediterranean as early as 533 A.D. because the historian Procopius, who accompanied a Byzantine expedition to Africa in that year wrote that the admiral of the fleet 'gave an order that the three ships carrying the officers in chief command should have as much as a third of the upper angle of their sails painted red'.[9] Sottas claimed that this indicated that the sails were triangular lateens. I have questioned this and suggested that the 'angle' could have referred to triangular topsails which were known in

1 L. Surmelian, 'Armenia', *Holiday*, Vol. XIX (Feb. 1956), pp. 52–5.

2 H. W. Smyth, *Mast and Sail in Europe and Asia* (Wm. Blackwood and Sons Ltd., 1929), p. 320.

3 *Ibid.*, pp. 269–72.

4 R. LeB. Bowen, jr., 'Eastern Sail Affinities', *American Neptune*, Vol. XIII (1953), 187–98.

5 *Ibid.*, pp. 187–8.

6 *Ibid.*, p. 192.

7 R. LeB. Bowen, jr., 'The Rig of Early Mediterranean Warships', *M.M.*, Vol. 40 (1954), pp. 315–20.

8 R. LeB. Bowen, jr., 'Eastern Sail Affinities', *American Neptune*, Vol. XIII (1953), pp. 81–117, 185–211.

9 J. Sottas, 'An Early Lateen Sail in the Mediterranean', *M.M.*, Vol. XXV (1939), pp. 229, 441.

these times.[1] It seems that Procopius was referring to dipping lug sails. It is interesting to note that many of the lug sails of Venice in the Adriatic Sea are brilliantly coloured to-day and sometimes have 'as much as a third of the upper angle of their sails painted red'!

It now seems certain that the Greeks and the Romans during Roman times knew both the sprit-sail and the dipping lug sail, and thus these sails have been in use in the Mediterranean for over 1700 years. The so-called Arab lateen, a short-luff dipping sail, seems to have spread to the Indian Ocean from the Mediterranean during Roman times. The triangular lateen apparently evolved from the dipping lug in the Mediterranean. The earliest record of the lateen in the Mediterranean is still Grec. 510, a ninth-century manuscript. There also seems to be no doubt now that the lateen evolved from the lug. The lug did not come from the lateen by cutting off the fore end of the triangle of the sail.

RICHARD LEBARON BOWEN, jr.

THE EPAULETTES OF LORD NELSON

It has sometimes been suggested that the epaulette exhibited at the National Maritime Museum on the right shoulder of the Trafalgar coat of Lord Nelson is not the original epaulette as, having a single star on it, it is that of a Rear-Admiral. In fact, I believe that another Museum has exhibited the 'missing epaulette'.

A recent examination has refuted the suggestion. Needle marks show that there was formerly a second star on it and that this has been removed, while from what follows it will be seen that there is little doubt that it is the fellow of that which was damaged by the fatal bullet.

The Museum has six epaulettes which belonged to Nelson: (*a*) the one which was damaged by the bullet; (*b*) the one exhibited on the right shoulder of the same coat; (*c*) and (*d*), those on the coat traditionally laid out to be put on after the action; (*e*) and (*f*), those on a third undress coat.

In epaulettes of this period a gold lace strap is sewn to a piece of canvas, and this in turn is backed by a piece of silk. The inner end has a buttonhole and the outer is sewn to a pad encased in yellow silk. Above the pad the strap ends in a crescent of gold bullion and from this hangs the fringe.

There is no doubt that all the Nelsonian epaulettes came from the same maker. The weave of the lace of the strap is identical and so are the method of surrounding the buttonhole with gold wire and sequins and the manner of forming the fringe. This consists of a fringe of brown threads, above this a fringe of gold threads, then a short row of gold bullions and finally the complete outer row of bullions. The bullions are approximately 3 in. in length and of 1 in. circumference.

The six epaulettes exhibit small differences. (*a*) to (*e*) have an additional small piece of bullion on the inner side of the crescent, but there is none on (*f*). (*e*) is backed with white silk, (*f*) with yellow. From the others the silk is missing, having probably perished and been removed. The numbers of bullions in the two rows differ as to the sizes of the stars. Table 1 shows the numbers of bullions in the inner and outer rows and the approximate diameters of the stars in mm.

Table 1

	Bullions		Stars	
	Inner	Outer	Inner	Outer
(*a*)	Too damaged to count		45	45 (centre missing)
(*b*)	10	20	Removed	45 (centre missing)
(*c*)	9	20	Removed	40
(*d*)	9	20	Removed	45
(*e*)	10	19	45	45
(*f*)	9	20	45	40

1 R. LeB. Bowen, jr., 'Arab Dhows in Eastern Arabia', *American Neptune*, Vol. IX (1949), p. 93; *M.M.*, Vol. 36 (1950), p. 89.

It is possible that the different sized stars on (*f*) might argue that this is one purchased when Nelson was a Rear-Admiral, the second star being fitted subsequently.

A comparison of the epaulettes shows: canvas appears to be identical on (*a*) and (*b*) and on (*c*) and (*d*), but the two pairs show slight differences. If the bullions are lifted, bright metal will be seen underneath. The colour of (*a*) corresponds with that of (*b*), but that of the other four is of noticeably redder hue.

There are slight variations in shade of the lace straps. Again (*a*) corresponds with (*b*) and (*c*) with (*d*), while there is a difference between the pairs.

The conclusion is that while all epaulettes by this maker are identical as regards the main features there are slight variations between pairs and these enable us to say with some certainty that the right epaulette of the Trafalgar coat is the original fellow of the damaged one on the left shoulder.

W. E. MAY

SYON BARGE

In the *Mariner's Mirror* for January 1949, pp. 78–9, there appeared a note by V. F. L. Millard on the *Syon Barge* which the author had compiled after a detailed inspection of the barge.

Syon House is in the Borough of Heston and Isleworth and hence anything of its history that appears is added to our Local Historical Collection. I heard from local inhabitants of the bricking up of the boathouse and enquired of the Duke of Northumberland, the whereabouts of the barge. The following is an excerpt from his reply:

'The Syon Barge which is described by Mr Millard is not in fact bricked up under the old boathouse. Its remains are in the stables at Syon.

It was originally very badly damaged during the First World War by people who broke into the boathouse and stole the carved prow; its further disintegration occurred during the last war and there is, I am afraid to say, not enough worth keeping now but such remains as there are, are in the stables.

The oars, however, have been preserved and these are in the Riding School.'

I thought that Mr Millard in particular would be glad to hear of this latest news concerning the *Syon Barge* and trust that you will be able to inform him.

W. C. CUNNINGTON

IN REFERENCE TO REVIEW IN AUGUST 1955 *M.M.* BY DR R. C. ANDERSON

The following passages are the only ones in the whole literature of the North which describe the building of a ship:

'Next winter after King Olaf came from Hologaland he had a large ship built at Hladhamrar. It was far larger than the other ships in the country and the stocks on which it was built may still be seen (in Snorri's time). It was 148 ft. long touching the grass, i.e. at the keel. Thorberg Skafhogg (blow scraper) was stem smith (made stem and stern) for the ship: many others were engaged in the work, some to fell trees, others to shape wood, others to nail, others to carry wood. Everything used was most carefully selected.

'The ship was long and broad, with high gunwales and large timbers. While the bulwarks were rising Thorberg was obliged to go home to his farm, and was away a long time, and when he came back the bulwarks were completed. The same evening the King, together with Thorberg, went to see how the ship looked, and every man said he had never seen an equally large or fine longship. The King returned to the town.

'Early next morning the king and Thorberg went down to the ship; All the smiths had arrived and stood there doing no work. The King asked why they did this. They said the ship was spoiled and that a man had walked from the stem to the "lypting" and made cuts into the gunwale, the one after the other. The King looked at it and saw it was true. He swore that if he knew who had spoiled the ship from envy that man should die, but the one who could tell him should get great reward from him.

'Thorberg said, "I can tell you King who did this." The King answered, "Thou wast the likeliest man to be so lucky as to ascertain this and tell me." "I will tell the King who has done it" he said: "I have done it". The King answered, "Thou shalt repair it so that it is as good as it was before, or else lose thy life."

'Thorberg shaped the gunwale so that all the cuts disappeared. The king and everyone said that the ship was much better on the side which Thorberg had shaped. The king asked him to do the same on the other side and thanked him well for it.

'Thereafter Thorberg was the chief smith of the ship till it was finished. It was a dragon made in the shape of a serpent which he had brought from Hologaland, and belonged to Raud, but much larger and in every respect more carefully built.

'He called it the *Long Serpent* while the other was the *Short Serpent*. The *Long Serpent* had "34 rooms". Its beak and dragon tail were all ornamented with gold; its gunwales were as high as in sea going ships. No better or costlier ship has been built in Norway.' (Olaf Tryggvason, c. 95.) The assertion as regards 'the only ones in the whole literature of the North which describe the building of a ship' is by the author Paul B. du Chaillu in *The Viking Age*, use of the words 'Blow scraper' and 'Gunwales' is curious.

H. A. WOODRUFF

THE ARMAMENT OF THE *DANAE*

In the account of the mutiny of the *Danae* (p. 39) James is quoted as saying that, after her capture from the French, this 20-gun ship was rearmed with no fewer than 34 guns, 12 of them on the quarter-deck and forecastle. He must have been wrong in this, since the draught (No. 2873*a*) of the ship 'as refitted' shows no quarter-deck, but merely a very small roundhouse or poop which could certainly not have accommodated more than a couple of guns, if that. There were considerable modifications between decks and in the hold, but very little on deck apart from the addition of this roundhouse. It may be worth mentioning that, when the *Danae* was present at the capture of the *Pallas* and when she surrendered to the French, she was called by them a 20-gun corvette, as she had been under her original name, *Vaillante*.

R. C. ANDERSON

THE *DANAE* MUTINY

In his very interesting record of the *Danae* mutiny, the author refers to Admiral Jurien de la Gravière as one of her commanding officers, when she was the French corvette *La Vaillante* and, in a foot-note, adds:

'De la Gravière consistently refers to her (in his *Souvenirs d'un Amiral*) as *La Brillante*, but there seems little doubt that the passage of time caused his memory to play him false.'

This needs some explanation. There were two Jurien de la Gravière, father and son, and both reached the rank of Vice-Admiral: Pierre Roch (1772–1849) and Jean-Pierre Edmond (1812–92) and *Souvenirs d'un Amiral*, published in two volumes in 1860, although being the record of the father's activities, from his own notes, were written by the son.

Moreover, the latter, as he explains in his preface, has purposely altered the names of certain ships on board which his father had served as well as of certain men 'd'une notoriete trop eclatante'. This is why *La Valliante* has been mentioned as *La Brillante*, in the same way as, later, Allemand's flagship *l'Eylau* becomes *Le Boree*, while, at the same period, de la Gravière's command *Le Marengo* is mentioned with her proper name.

M. ADAM

LORD COCHRANE ON ABUSES IN THE ADRIATIC

(See *M.M.*, Vol. 40, p. 230, and Vol. 41, p. 65)

I am most grateful to Admiral Thursfield for calling attention to Robert Wilson's Journal, which had escaped my notice, and should like to make some belated observations.

The Russian squadron from whom Campbell learnt of the occupation of the islands was not going to 'occupy Venice', but to land the Russian garrison of the islands, which was to be sent home overland. The Russians went in to Venice (a blockaded port) under protest from Campbell, who however had not the strength to prevent them. Cruisers from the Adriatic squadron were active off Corfu before Campbell himself came down in October. I think he only abandoned the Upper Adriatic in obedience to the orders which Collingwood sent him from the Dardanelles in September.

My only wrong date is that of the *Unité*'s, departure from Malta. The fact that she went in for her refit later than I thought makes it clear, as Admiral Thursfield says, that Cochrane was senior officer only by an accident and that his supersession by Harvey had nothing to do with any adverse report from Campbell.

On the reasons for Campbell's removal from the Adriatic in 1809, it is not true that he was superseded by a senior officer in a ship of the line. Captain Hargood was sent up the Adriatic later in the spring with three ships of the line to support the Austrian operations on land; but this happened some time after Campbell's departure in March, and two frigate captains, Hoste and Brenton, commanded in the interval. The real reason for Campbell's removal is made clear in Collingwood's despatch to the Admiralty, which I summarized. After stating the irregularities of the late Captain Happenstall, in selling prizes before adjudication, which Dr Sewell of the Admiralty Court at Malta tells him is not uncommon in the Mediterranean, he continues:

'On the representation when I was at Malta last [i.e. in January or February 1809] of irregular proceedings by the *Unité* in having sold small vessels at Trieste before condemnation, I immediately ordered Captain Campbell to join me that his conduct might be enquired into: on his coming to the Squadron he informs me that some small coasting traders had been sold because they were such as could not be safely navigated to Malta in the winter; but that their papers and necessary documents for condemnation were sent to the Admiralty Court: this still being irregular, and giving a latitude to abuses, I forbade the practice and removed him from the station.'[1]

This makes it clear that Campbell was indeed removed for irregularities. At the same time Collingwood recognized that, as Admiral Thursfield points out, the irregular disposal of prizes did not necessarily imply criminal intent, though in Heppenstall's case Collingwood seems to have thought that it did. Campbell's removal was not a mark of disgrace, and his next command in the Mediterranean was the *Leviathan*, 74. But it seems conceivable that Collingwood had Cochrane's story in mind when he decided to remove him.

An important word was omitted in my first note. Cochrane wrote that he was begged *not* to publish the story of his Adriatic command!

P. G. MACKESY

POPHAM'S TELEGRAPHIC CODE

One would hardly imagine that the services of nautical research would be invoked in connexion with the American anthem, 'The Star Spangled Banner'. By some almost incredible and inexplicable process the origin of its words is connected with the squadron under the command of Vice-Admiral Sir Alexander Cochrane operating before Baltimore on 11–13 September 1814. There is an account of those hostilities in Clowes's *The Royal Navy*, Vol. VI, pp. 144–8. I have been brought into the matter by an officer in the Music Division of the Library of Congress, who has been occupied at the Public Record Office in searching the logs of the English ships present at the time. His trouble has been that in a large number of instances the logs, instead of stating what happened, have recorded groups of figures preceded by the word 'Telegraph'. This gentleman was unable to find out at the P.R.O. or at the Admiralty what the groups represented; presumably, since the date was 1814, the appropriate book in which to look for telegraphic signals would be Popham's edition of 1812. This had proved to be useless.

1 Adm. 1/415. No. 59 (20 March 1809, Collingwood to Admiralty).

So we turned our attention to the edition of telegraphic signals of 1803 (that from which Nelson's 'historic' message was taken). It turned out to be quite appropriate and most of the groups could be interpreted correctly. Among them were the following:

Move (out of?) shot range.
Seamen landing to be supplied with BELT and POUCHES.
Examine ships company and signify by signal how many are useful at small arms.
Send a return of the killed and wounded immediately.

It may be remembered that in Nelson's signal the word 'duty' was not in the vocabulary and had to be spelt out. So too on this 1814 occasion several words had to be spelt as they were not to be found in the code; such were 'belt' and 'pouches' (above) and commoner words such as 'book' and 'cook'. The words 'out' or 'out of' were not included in the 1803 edition and seem to have been added locally. In addition to telegraph signals there were a good many others logged, taken from the ordinary *Signal Book for the Ships of War* of 1808, such as 'Weigh' and 'Anchor as convenient'.

Popham's code of 1812, which he himself considered such a great improvement, really had grave disadvantages, mainly that he had added too generously to the signal symbols. In 1803 the signal flags consisted merely of the ten numerals already provided in the ordinary signal book with a few extras, not more than sixteen all told. But in the next edition he introduced nine numbered flags, ten-lettered 'cornettes' and 'guidons', and eight extras. This was an embarrassing increase in the amount of bunting to be carried in a ship; but worse still, it meant that words and phrases in the vocabulary were now represented by a complication of groups consisting of letters and figures mixed, or all of letters or all of figures. For instance, '4M6' ='barnacles', 'FEL' ='Have you any information' and '6379' ='funnel-s'. It is true that the words 'duty', book', 'cook', 'belt' and 'out' were in the new edition, but still not 'pouches'.

It seems that, in spite of Popham's recommendations, there would be a certain amount of reluctance and prejudice against the 1812 edition of the code being adopted; partly because of the excessive amount of bunting being required, which incidentally now consisted of rectangular flags, pendants, burgee shapes ('cornettes') and triangular flags ('guidons'), and partly on account of the jumble of groups. Although it was published in 1812, of course it may have taken many months to reach outlying fleets and squadrons, and might not have been received in North America by September 1814. But whether or not for any of the reasons cited above, Popham's code of 1812 was evidently not in use in Cochrane's squadron at that date.

H. P. MEAD

A MEDIEVAL CORDAGE ACCOUNT

Vice-Admiral Sir Richard Lane-Poole, in the record section of Volume 42, No. 1, of *The Mariner's Mirror*, asks what is meant by WHITE, BASTARD and BLACK thread in the medieval cordage account about which he writes.

I think that WHITE thread refers to untarred hemp. This is hard, smooth and pale straw in colour. BASTARD refers to what is to-day called boltrops and is rot-proofed soft-laid hemp. BLACK is tarred hemp, dark brown in colour and although heavier than white hemp is not so strong but weathers better.

I am glad to read in the cordage account the old spelling BRYDEPORT for the town whose name I am proud to bear. It is not correct to think that the old name was originally Bridgeport. The town got its name from the Gaelic word Bride, or Great Mother, also written Brig, Brid, Breed, hence Bridget, Brigantia, Britannia, Britain, etc.

Incidentally how many people know that to be stabbed with a *Bridport dagger* meant to be hanged by the neck until you are dead? An obvious reference to the rope-making industry of that town.

Silken *Bridport daggers*, for use around the necks of peers of the realm, have long been abolished and, at the time of writing (February 1956) it seems likely that the hempen variety will be

abolished also. Before the hangman's art is forgotten it may be of interest to recall the ingeniously simple arrangements for a hanging at sea in the days of sail.

A fall was led through a single block at the fore yardarm and thence to a second single block under the fore cap. Between the two blocks was a sheepshank the inboard bight of which was not half-hitched, as is usual, but merely *stopped* with light twine. This stopping would carry away the instant the sheepshank was hauled against the block, so spilling it. The *weight* at the *noose* end at once droppped to take up the slack given by the spilled sheepshank, and it was brought up with jerk by a toggle which fetched against the yardarm block. The toggle was marlingspike hitched and seized to the rope at a point which allowed the correct drop outside the rail. In preparation for this the fall was laid at length along the deck ready to be 'hurried aft' when 'twenty stout fellows maned the fall'.

BRIDPORT

THE KIRLANGITCH AND THE PINK

As an addition to Dr Anderson's Note in August 1955 it may be mentioned that Beaugean's *Recueil de Petites Marines*, plate 72, shows a 'Kirlanghi' as a lateen-rigged Xebec; hence perhaps the name may have been merely the Turkish word for Xebec. Willaumez in his *Dictionnaire de Marine* defines 'Kirlang-hisch' as a despatch boat in the Turkish navy, and from this also it seems probable that the name was applied to a Xebec rather than a Pinque, since the former was built for fast sailing, while the latter was not.

While I think the Pinque generally had a square stern, Jal does not seem to be entirely wrong in his statement to the contrary, as one can find pictures of Pinques with the round Mediterranean stern and the overhanging *ailles*. One such is contained in Lescallier's *Termes de Marine*. The term 'Genoese Pinque' is so often encountered that one wonders whether the adjective did not denote a special type, not merely its hailing port. All the numerous representations of these that I have seen show a square stern, usually without a counter.

Since Pinque denotes a hull-type and not a rig, there is no contradiction in Dr Anderson's three sketches. Figs. 1 and 3 have the same rig, only in fig. 3 the vessel is shown under her *voiles de tréou* or storm-sails. Falconer seems to be completely wrong in ascribing lateen storm-sails to Xebecs. Fig. 2 represents the rig known as a Barque, but instead of carrying the normal lateen foresail there are *voiles de tréou* on the foremast, Although these are always described as storm-sails, inasmuch as the vessel is carrying a main topgallant sail, there were evidently cases where these were used in moderate weather. Forfait, *Traité de la Mâture*, p. 131, says the lateen foresail was never carried outside the Mediterranean.

The shapes and relative size of the two *voiles de tréou* are not very correctly shown in fig. 2. On account of the rake forward of the foremast and the fact that the yards had to be perpendicular to it, the lee clew of the foresail stood high above the rail when the yards were braced up. Hence the length of the leech of the foresail was about equal to the hoist of the topsail.

D. L. DENNIS

FISHING-BOAT PROPULSION

As is well known, most small fishing boats are now propelled by internal-combustion engines.

In the case of the older boats, where the stern-post has not been heavy enough to take the propeller shaft, the drive is arranged by passing the shaft through the side of the hull some distance from the long axis of the craft.

At first glance, one would think that this one-sided thrust would make it very necessary to put on 'Opposite-Rudder' to keep the craft on a straight course. However, some years ago a Dungeness fisherman, who had converted quite a number of boats himself, assured me that this need for 'Opposite-Rudder' is not so great as one would think. This, I suppose, is due to the fact that in this case the screw shaft does not work parallel to the long axis of the craft, but at an *angle* to it. This, I suppose, produces a *sideways* thrust which sends the nose of the craft over in the *opposite* direction to that which would result if this 'one-sided' force was given by a screw working parallel to the long axis of the craft.

Perhaps some readers will correct me if I am wrong in this view.

Some of these boats, to give a reserve of power, have two propellers: one in the 'angular' position and the other in the ordinary stern-post position.

This problem of 'one-sided' propulsion-thrust is very interesting, both in boats and also in aircraft.

W. ADAM WOODWARD

NAUTICAL ESPERANTO

Combining twin enthusiasms, for Esperanto and for nautical matters in general, the writer has just completed an international enquiry into the extent, if any, to which Esperanto (or any of its competitors) has been employed at sea—where it might be assumed to have its best potentialities.

One would imagine that dockside notices, shipboard instructions for international passengers, notices to mariners, ship's business documents, international R/T traffic, intercourse with foreign pilots, customs and harbour officials, and a hundred other almost daily occasions in a life at sea, would have made the sailor the first to take to a neutral second language.

But from Scandinavia to Japan, the answer was that one uses English, or guesses! Lingua Franca, which held sway in the Mediterranean up to perhaps a hundred years ago, seems to have largely disappeared.

A regrettable state of affairs to a convinced Esperantist, but the sea is notoriously not the best place to look for innovations flourishing.

It is for consideration, however, whether an interest and a taste for nautical research is not likely to go well with a study of Esperanto, with a view to international contacts, both in person and in writing? It also gives a great deal of mental satisfaction, and opens up a wide field of literature, old and new, original and translated, in a very pleasing medium.

For general interest, the following passage from *The Manual of Seamanship* is presented. It will give little difficulty to obtain a general idea of the meaning for any educated person; but, such is the construction of the language, that an accurate and idiomatic translation can be made straight from the rules and word list in a penny 'key' booklet, with no previous knowledge at all. It is not difficult to assess the possibilities of doing this from, say, a German passage with the aid of a dictionary and grammar, and no previous knowledge.

'ANKRE FLOTI: Oni faligas ankron en ankrejo, poste forlasas pli da ĉeno, tiam haltigas ĝin per bremso aŭ kunprenilo. Kiam la ankro hokiĝas ĉe la fundo kaj la ĉeno streĉiĝas la ŝipo ankriĝas.

'Povas okazi, ke la ankro malhokiĝas, kaj la ŝipo drivas. Oni povas faligi duan ankron tiel, ke la ŝipo estas duoble ankrita. Por eviti ĉenvolvojn, oni iafoje enmetas turnringon.

'Por levi la ankron oni funkciigas la kapstonon aŭ ankro-vinĉon, la ĉeno iĝas vertikala, la ankro malhokiĝas, elakviĝas kaj fine kuŝas en la ĉentubo.'[1]

A. J. L. HUGHES

A ROMAN BOWLINE

Interesting mosaics, showing shipping of the Roman times have been brought to light by Mr Foucher, the curator of the Sousse Museum, Tunisia. They were discovered in 1954, at Souani-el-Adari, near the sea, about 12 miles north of Sousse. In studying his finds, M. Foucher was struck by the unusual ropes which, in one of the ships (see Fig. 1), go from the leech of the mainsail to the upper part of the foremast, and he asked for my opinion. My answer was that it strongly suggests a bowline, and that I fail to find any other satisfactory explanation.

The objection is, of course: if bowlines were then in existence, how could we explain their absence from all other pictures of contemporary shipping? I cannot remember this feature appearing in any of what I know of Roman ships pictures: M. Foucher has searched practically all photos of Roman mosaics of the kind without finding any other instance of the said rope.

On the other hand, it would be difficult to suppose that a lay artist could have invented such a plausible picture of a bowline. His ships seem, by the way, more realistic than is the case with most of those to be found in mosaics. They include no hybrid monsters like those of the Althiburus

[1] Extract, used by permission of the author, from *Marista Terminaro* (Marine Vocabulary), by Captain Peter Clissold.

pavement. But, again, if the rope was a common feature of ships of his time, why did the artist show it in one of his ships only? (The ship sketched here is part of the principal motif of the pavement: two ships, symmetrical, one on each side of a central image—here the Ocean God—an arrangement much favoured in Roman or Roman-inspired nautical decoration: see the Pisa and Ostia ships). As is often the case with ancient monuments, this one seems more apt to raising problems than to solving them.

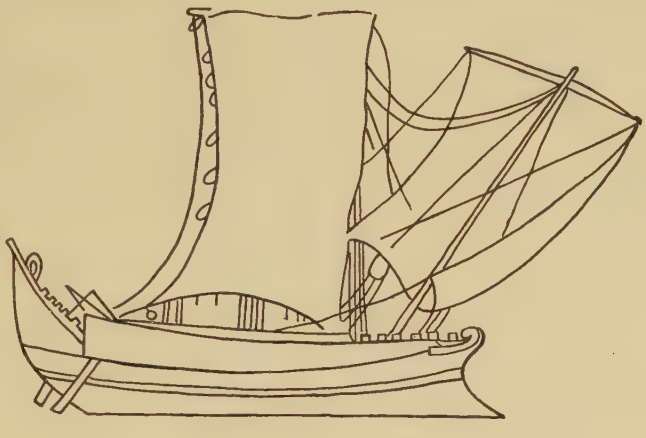


Fig. 1

From the style of ornaments, experts ascribe the mosaic to the middle of the third century A.D., but the type of the ships could well be over a century older if not more. Contrary to what is the case with other mosaics, this one does not seem to have undergone later or modern repairs or restorations.

The site of Souani -el-Adari is identified by M. L. Poinssot (*Revue Tunisie*, 1942), as the ancient Themetra.

L. GUILLEUX LA ROËRIE

NOTE ON EDGE-JOINED CONSTRUCTION IN THE *BHEDDI*

I think that the *bheddis* were built *hora* fashion with crude moulds (clench-boot fashion) and framed after being planked. I see no technical difficulty in the use of the *hora* type of construction in boats of other models, such as the *bheddi*, for the system of shaping the hull with crude floors or partial moulds is, after all, about the same method that was, and still is, widely used in building clench fashion. Control of the form of the hull in construction would be obtained, in either case, by the fastening of the plank edges—unlike carvel, where the planking is held together only by the frames and their fastenings. The edge-pin fastenings are very strong and lasting. Such fastenings are used to some degree in the Chesapeake Bay log canoes, and the log bottoms often last 60–75 years. But, unlike the clench-build, the edge-fastened plank hull would be more rigid than pliable, and the framing could be scant, lacking in rigidity as a unit. The unconnected futtock framing is very old in European vessel construction.

HOWARD I. CHAPELLE

NOTES ON THE CANOES OF BRITISH GUIANA

On p. 124 *et seq.* of the *Mariner's Mirror* of April, 1924, Mrs Maud Brindley writes on the two types of canoe in British Guiana. Although she provides much valuable information on the history and locale of these craft, she gives no description of the way in which the boats were constructed.

I have just returned from a visit to British Guiana; and, although I had no opportunity of seeing the boats being built, I was fortunate enough to meet several people, notably Mr Vincent Roth, C.B.E., and Mr George Wells, both of Georgetown, whose duties took them into the interior, and who have an intimate knowledge of the boat-culture of the various tribes. I hope, therefore, that the following notes will be of interest to students of primitive boat building.

The craft of British Guiana may, as Mrs Brindley states, be divided into two types, namely, Woodskins and Dugouts.

The Woodskin

The territory inhabited by the Arawak is, for the most part, situated in the north-west district of British Guiana on the Pomeroon River. Their boats are designed to navigate the upper reaches of the creeks and heavily watered areas in that part of the Colony and they are made light for easy transport on land round the rapids.

This tribe uses a single piece, trough-shaped, bark boat, rolled like a scroll, which goes by the local name of Woodskin.

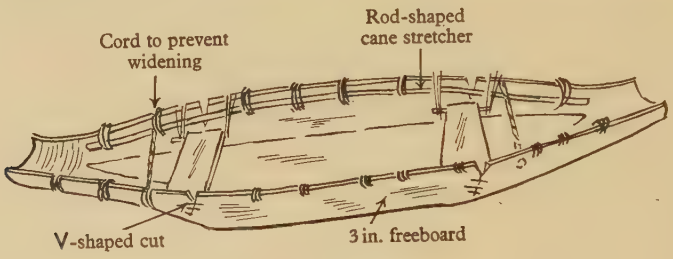


Fig. 1. Woodskin.

The bark most commonly used is from the hardwood Mora tree, which grows to a height of 200 ft. with a maximum diameter of 7–9 ft. The wood is reddish in colour, hence the name purple heart.

When the size of the boat has been decided upon, a tree of convenient size is felled, and an incision is made a few feet clear of the buttress. The incision is made round the tree through two thicknesses of bark and into the live wood itself. A similar incision is made at a point higher up the tree decided upon by the length of the boat. These two incisions are then joined. The bark is eased off by driving in hardwood wedges. As it is loosened, it is kept open by cross-skewers of wood.

The bark sheet is next carried to the waterfront of the village or a clearing in the forest, and the work of shaping the boat commences. The bark is bent over and, starting amidships, light stretchers are inserted between the sides in order to keep them apart at determined and gradually diminishing distances. These are bound in place and serve to give the boat form.

The most difficult operation is now commenced. At points about 2–3 ft. from the bow and stern and on each side of the boat, a V-shaped piece is cut from the outer layer of bark leaving intact the corresponding inner layer which is folded back on itself and sewn in place with 'homeward bound' stitches of split cane. This operation, together with that of spreading the boat, has the effect of raising the bow and stern sufficiently to prevent the entry of water. The intermediate spreaders are later removed to give more space in the boat, about five being left to give lateral strength and prevent undue widening. These are often supplemented by cord ties to prevent spreading. In some cases a cane rod is sewn or lashed at intervals along the inside of the gunwale by means of 'Bush rope'. An additional refinement sometimes occurs in the form of one or two wooden seats kept in place by supports hung from the cane rods.

Such a boat, say about 18–20 ft. long, with the full complement of a man, his two wives and two or three dogs for hunting, would have a freeboard of a few inches at the bow and stern and perhaps 3 in. at most amidships: these boats are extremely light and can easily be carried round a rapid or other obstacle on the boatman's head.

The Woodskin has one formidable defect. If capsized it sinks at once owing to the great specific gravity of the bark.

The Dugout

The Dugout of British Guiana is a narrow type of boat made from the single trunk of a tree. It is known locally as Carib, the larger variety being called Canaoas. This is the type most generally used in the navigation of all the creeks, rivers and coast of the Colony.

After the tree has been felled and lopped to a convenient size, the log is hauled to the river or creek and allowed to lie in water for some weeks, so that the bark can be easily removed.

When this has been done, the side of the log selected for burning is adzed down to about one-sixth of its diameter. Two 8 ft. hardwood rollers are placed underneath the log, athwartships, to act as a bed. A charcoal fire is kindled between the rollers, and the log is rolled over on the bed until the adzed surface meets the embers.

Periodically the log is rolled back on the bed for inspection or for scraping away the carbon deposit. As the interior of the log is slowly burnt away, the fire is built up and controlled by a bank of earth. As the work proceeds, the fire is gradually lengthened in this way so as to cover the inside of the whole log except for a few feet at bow and stern. When about one-third of the interior has been removed in this manner, the log is filled with water and exposed to the sun so as to soften the wood and make it more pliable. This enables the dugout to be spread.

Light stretchers are inserted at intervals between the gunwales to keep them apart. At determined distances other stretchers are wedged in so as further to open out the dugout. The work of excavation is continued until the thickness of the hull is less than an inch. Finally to prevent the sides from unduly spreading a stout thwart is fitted between the gunwales. Eventually the boat is adzed to shape.

Some dugouts are equipped with a sail, the most popular being the sprit sail. In the interior of the Colony, where cloth is scarce, a primitive form of sail composed of thin laths split from the leaf stalks of the Mauritia palm is sometimes to be found. The sail much resembles a bamboo window blind; it is slung from a light yard. The halyards pass through the mast.

The march of science in the form of the outboard motor has reached even to the fastness of the aborigines; and, to-day, most of the fishing craft and many of the trading dugouts are fitted with this type of engine. Curious as it may seem, this form of propulsion is ideally suited to the dugout and quite astonishing speeds can be reached. The boats are, of course, double ended with stem and stern alike; and in order to accommodate the outboard motor the dugout is often sawn through at a point a few feet from the stern. A transom stern is then nailed across.

G. R. G. WORCESTER

HUMBER SLOOPS AND KEELS

Mr John Frank's most interesting article in the November issue caused me to call to mind some observations I made on these craft while stationed in Hull during the war. I make no claim to being an authority, but submit the following notes more in the hope of stimulating Humberside members to bring forward their knowledge than with the expectation of contributing anything new myself.

I was in Hull from 1942 to 1944. During that time, quite a few keels were still rigged for sailing, but I only once saw one under sail. On the other hand, I had numerous opportunities of watching and making passages on board sloops. What I saw impressed me greatly. For economy in maintenance and in manpower in their highly specialized environment, I do not think a better sailing craft could have been devised.

Understanding their environment is the key to appreciating their points. My interpretation of this is as follows. The Humber is a large estuary running roughly east to west. The wind therefore tends to blow up or down stream, while tides flow and ebb too strongly for any normal working vessel to beat against them. Craft trading under sail had to work their tides, and rely as much if not more on the tidal current as on the wind for their progress to windward. Speed to windward in still water could therefore profitably be sacrificed to carrying capacity.

Leading off the Humber are a number of narrow rivers and canals. In such confined waters there was no room to turn to windward, while the piston effect of a relatively large craft moving along them offset much of the advantage which fine lines give in open water. There was therefore every reason to build craft as nearly rectangular as possible, and of a size to fit the rectangular locks through which they had to pass. Mr Frank mentioned how keels were built in different sizes, to fit the locks in different rivers. The rectangularity, if I may use such a word, of keels and sloops was almost unbelievable to anyone seeing them for the first time. If one was to take an oblong piece of wood, round off the extreme corners, and fair off an absolute minimum of run underneath to allow some flow to a rudder, one would have quite a reasonable model of the underwater part of their hulls.

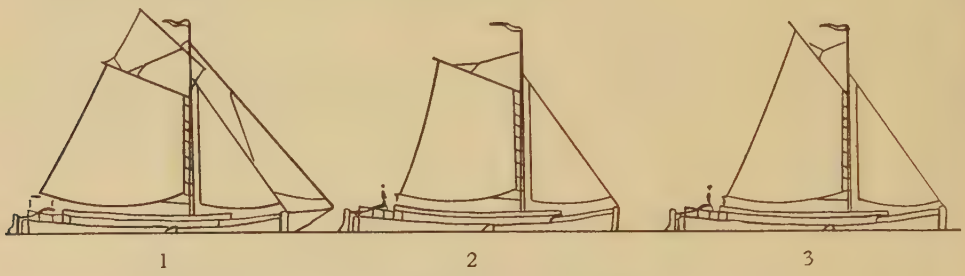


Fig. 1. Possible history of the Sloop.

As Mr Frank points out, the keel was the handier craft for canal work, and the sloop for the open Humber. In order to negotiate a bridge, a sloop had to haul the jaws of boom and gaff clear of the mast before it could be lowered, while the keel had simply to drop her yard and cast off the parrel. Moreover, the keel's mast could be lighter, as it was stayed aft. The keel's square sail would draw closer to the wind, if the lee shrouds were cast off, as it was free from the wind eddies which occurred behind the sloop's mast. The sloop's one advantage was ease in staying. I always wanted to see a keel go about, but the only one I saw under sail had the wind aft. Tacking a keel must have been a skilled operation.

The hatch arrangement in the sloops I examined appeared to show a process of evolution. Perhaps some member can confirm or refute this. Certain old wooden craft had two separate hatches, a small one before the mast and a large one abaft it, with a length of deck in between. The hallyard winches stood on this deck. In iron craft of newer appearance, however, the hatch arrangement was as shown in Mr Franck's fig. 6, there being one long continuous hatch with the tabernacle emerging from it, and the winches being mounted above the chain plates on either side. These side winches were of a neater design than the others. The second arrangement must greatly have facilitated showing and discharging cargo. This surmise does not bear out Mr Frank's suggestion that the sloop rig was first applied to hulls of normal keel type.

The idea that the sloop may not have been a direct derivative of the keel is borne out by what I was told by an old skipper with whom I made several passages. He said that there was a time when sloops carried a bowsprit and jib, and had a boom extending to the taffrail, I think he also mentioned a topsail. In those days, they made coastal passages outside the Humber. If this is correct, the rather curious bob-tailed rig of later days is an obvious adaptation to narrow tidal waters. Jib and bowsprit would presumably be removed as an encumbrance, and the mainsail reduced to preserve balance. The last was achieved by shortening the boom to the after end of the hatch, which gave a clear quarterdeck to work on and removed the danger of being knocked overboard when gybing. The low peak of prior to 1914–18, which Mr Frank attributes to squaresail ancestry, could equally well have evolved below a gaff-headed topsail. The sketches below illustrate this point.

The rigging of a sloop was the essence of simplicity. The mast was supported by, I think, three wire shrouds a side, set up with deadeyes and lanyards, and a wire forestay. All these led to the

hounds, the masthead being unsupported. The running rigging consisted of peak, throat and fore hallyards, and topping lift, all of wire. These were all single parts led to robust winches. In most sloops I saw, the winches each had two drums, a large low-geared one and a smaller one. The large drums carried the throat and peak hallyards, and the small ones the fore hallyard and topping lift. However, in one old sloop, the topping lift had a short tackle on the fall, and no winch. The pull of the peak hallyard was distributed along the gaff by means of a bridle of chain. A light line led from the peak of the gaff and was used for controlling it when the sail was being hoisted and lowered. The end was made fast to the boom at other times. The main sheet was of coir, and had a double block on the boom and a single one on the horse. There was no proper foresheet. The clew was attached by a length of rope to a thimble running on an iron horse, but this was simply to prevent the sail from flying wild. The sail was sheeted home by lacing the clew and the lower part of the leach to the forward shroud each time the vessel went about, thimbles and a cleat being seized on for the purpose. I think I remember seeing sloops with boomed foresails, as illustrated by Mr Frank, but the ones I knew well had no such booms. Mr Frank illustrated the ingenious little vertical winches set in the taffrail on either quarter, by means of which the leeboards were worked.

Sails were of heavy flax canvas, dressed with a mixture of ochre and horse fat in the sloops I knew. These craft used red ochre only, but others, with more orange sails, looked as if they mixed red and yellow ochres. The old skipper mentioned above quoted £20 a year as the cost of maintenance and depreciation of sails and rigging before 1939.

Although I saw instances of indifferent seamanship, handling a sloop well clearly called for skill and judgement. The skipper had to rely on wind, tide and his warping line for propulsion, and his earnings depended on his dexterity with sails and anchor. An important factor in sloop seamanship was the use of the peak, an advantage of gaff rig not appreciated by many yachtsmen. The mate clearly could not hoist peak and throat at the same time, as is often done in well-manned craft. He therefore first wound the peak well up off the boom. Then, he went to the throat winch and wound the throat right up, until the luff was taut and the sail scandalized. Meanwhile, the skipper controlled the gaff from his position at the helm by means of the line from the peak. In this condition, the sail held little wind and was easily managed. Both skipper and mate could then man the anchor windlass and, as soon as the anchor was up, the skipper would take the helm and the mate set up the peak.

The topping lift block was above the peak hallyard block on the mast. This allowed the peak to be set up on either side of the topping lift, a most important point. A sloop would stay quite smartly in moderate weather, helped round by a backed foresail, but, with a strong wind against a spring tide, she had to be gybed. To accomplish this safely, the peak had to be dropped during the manoeuvre. However, if the need arose when the sail was to windward of the topping lift, it was pressed against it by the wind, and the peak would only come down slightly. Such conditions raised quite a vicious sea, in which a 62 ft. sloop threw herself about like a dinghy, so the position could be alarming to the unseasoned passenger. The sloop's head would not pay off with the mainsail sheeted in, so the sheet had to be eased; but, once it was eased, it could not be got in again. The sloop therefore went roaring away before the wind, pushing a mountain of tumbling yellow foam in front of her and pulling another astern, with her skipper bracing himself with all his might against the helm. When the stern passed across the wind, the boom rose and crashed over. The pawl had been thrown off the peak winch, so, as the sail came clear of the topping lift, the peak fell, spilling half the wind; but, even so, the rest of the sheet raced round the cleat until it was brought up by the knot on the end. The kick which the helm gave at this moment was reckoned to be one of the most dangerous factors in the trade, many skippers having been thrown overboard, and some drowned. I was told that some men streamed the fall of the mainsheet astern, in order to avoid the risk of flying turns, but I never saw this done. Once the peak was to leeward of the topping lift, subsequent gybes were a comparatively simple matter, as the sail could be fully scandalized first, and the sheet did not need to be eased.

The only time I saw a sloop working to windward without the tide under her was in King George V Dock at Hull. There was a light westerly breeze, and she was beating up empty towards the lock pits. Despite the fact that there was little of her in the water, apart from her leeboard,

while the side of her hull almost equalled her sail area, she got there without any difficulty. I cannot say how high she pointed, or what course she made good, but I was told that it did not pay to sheet a sloop's mainsail in until the boom end was inboard, but that it should be just clear on the quarter. Anyone with access to the plan or a model could see how she would point trimmed thus.

Although they are not strictly comparable, it is interesting to compare the Humber Sloop with the Thames Barge. I know little about the latter, but it seems to me that the barge design places much more emphasis on speed under sail in narrow and shallow waters, whereas the sloop aims at the cheapest possible rig for use in conjunction with strong tides. My impression is that the extra complication of the barge's rig would not have justified itself in the sloop's trade, but it would be interesting to hear the views of someone more knowledgeable than I.

With so many barge yachts about, it surprises me that I have never heard of anyone converting a sloop into a mobile house-boat. It is true that the sloop would be the poorer performer under sail, but she would provide comparable accommodation and sailing of a sort at a much lower cost of upkeep.

W. A. KING-WEBSTER

SOME OLD BELIEFS AND SUPERSTITIONS OF SEAMEN

Sea farers in all times have been particularly prone to belief in signs and omens; a fact due in part, no doubt, to innate conservatism; but more to the perilous nature of a seaman's calling, and the mystery and uncertainty attaching to the element on which he earns his bread. From the time of Jonah down, indeed, sailors have always been inclined to attribute supernatural causes to perfectly natural phenomena, and to be constantly on the alert for signs and portents of troubles to come.

Amongst the earliest of nautical superstitions, is that attaching to St Elmo's Fire, or 'the Corposants' as English sailors called it. This phenomenon is really the glow accompanying the slow discharge of electricity to Earth from the Atmosphere, and usually appears on the extremities of the masts and yards of ships, and is often accompanied by a crackling noise. It is most frequently seen during and after snowstorms, but may occur at any time. The phenomenon was well known to the mariners of ancient Greece, who, when they observed two lights, called them Castor and Pollux and invoked them as gods.

The name St Elmo comes from St Erasmus, or Ermo, a martyr of the fourth century, and the patron saint of Mediterranean sailors, who regard St Elmo's fire as the visible sign of his guardianship. Through them, presumably, the belief that when St Elmo's fire was seen during a storm, it was a good omen for the safety of the ship, spread to other nations. Fernando Columbus, the son and biographer of the great Christopher, mentions it in his account of the latter's second voyage to the West Indies: '. . . on that night was seen St Elmo with seven lighted tapers at the topmast, there was much rain and great thunder; beholding which the sailors chanted many litanies and orisons, holding it certain that in the storms in which he appears none are in danger.'

The famous Magellan also mentions the feeling of comfort and hope he experienced from seeing these lights in time of danger; which shows that the belief in their divine significance extended to men of education of that day.

Water-spouts have not unnaturally been regarded with much superstition and fear by sailors at all times. Columbus's crew in the *Santa Maria* were terrified and panic stricken on encountering one; though afterwards they discovered what they considered to be an infallible charm against their powers. This consisted in repeating passages from the Gospels of St John, and even to this day Levantine sailors, at the approach of a water-spout, will kneel down and, holding a black-handled knife (kept for the purpose) in one hand, read aloud the Gospel of St John. On coming to the words 'Et verbum caro factum est., etc., they cut the air thwart the direction of the water-spout, thereby, as they believe, causing it to collapse.

The power of the little Remora or Sucker-fish (*Echeneis remora*) to stop or retard ships, was one of the most widely spread beliefs in ancient and medieval times. Did they not delay Mark Antony from getting into action at the battle of Actium, despite the exertions of several hundred sailors?

Pliny states that the force of tempest, tide and current, joining in one grand impulse with oars

and sails, to urge a ship onwards in one direction, is checked by the operations of one small fish called by the Romans, Remora, which counteracts this apparently irresistible accumulation of power, and compels the vessel to remain motionless in the midst of the Ocean. Pliny perfectly credited the fable about Mark Antony at Actium, and also believed that the vessel of Caligula was detained between Astura and Astium by another of these little fishes, which was found sticking to the rudder, and whose solitary efforts could not be countervailed by a crew of 400 able seamen!

Herrick alludes to the prevailing belief in the remora's powers in his *Sailing from Julia*, when he says: 'Devoutly to thy Closet gods then pray, that my wing'd ship may meet no remora.' Spenser also mentions the remora in *The vision of the world's vanity*.

The belief in the power of witches adversely to influence wind and weather conditions at sea, was not uncommon in days gone by. A case in point occurred in the Isle of Man, where the fisher folk discovered that all their troubles were caused by an old woman, who raised the tempest by whirling water round and round in a basin: Being caught in this diabolical act, she was condemned to death by being put in a barrel filled with spikes and rolled down a hill, upon which the grass is said to have never grown again. It is not recorded whether she 'got the wind up' on hearing her sentence.

Many old sailors still cling to the belief that whistling for a wind during calms, will sooner or later conjure up a breeze, and one has often seen some weather-beaten old quarter-master, with one eye cocked on the weather leach of the main-top-gallant sail, keep up an infernal 'swee-swee-swee' between his teeth for hours at a time, in periods of calm. Getting a parson to stick a knife in the mast was held to be equally efficacious, though many old 'shellbacks' believed that the presence of a clergyman on board at all, was unlucky, and would bring contrary winds and foul weather.

Amongst other superstitions may be mentioned the belief that to strike a glass or bowl, and allow it to ring, without stopping the vibration with the hand, will surely result in the death of some person by drowning. 'Ring a glass and drown a sailor' as the saying was. A curious instance of this belief being supported by events, occurred within the writer's knowledge. It is a good many years ago now, that I was sitting one evening in a café and at an adjoining table sat a friend of mine, a submarine officer, accompanied by a lady. The latter was idly amusing herself tapping a glass, and making it ring, to the evident annoyance of her companion, who at each tap placed his fingers on the rim to stop the ringing, and presently said rather testily 'for Heaven's sake stop? Don't you know the saying that to ring a glass is to drown a sailor?' The lady however chaffingly persisted, till at last the officer, losing his temper, got up from the table and flung out of the room. The next day the submarine which he commanded was lost, and he and all his crew perished.

Another thing that was considered most unlucky, was to drink the health of any person in water. To do so indeed was tantamount to a curse, as though expressing a wish that the person so toasted might drown.

To put to sea on a Friday has of course always been regarded as challenging the worst sort of luck. On Good Friday in Southern ports, the yards of square rigged ships are 'scandalized' or canted crosswise. This practice however has long been forbidden in the British Navy as savouring of popery!

Another superstitious practice which obtains to this day in sailing ships is the throwing overboard of a pack of playing cards to bring a fair wind. A few years ago a large sailing ship with many of her crew down with scurvy lay becalmed outside Melbourne Heads. Two men were on the point of death: nothing could save them if the ship did not reach port within a few hours; but there was never a whisper of a breeze. Suddenly the second mate, a Finn, strode aft to the cabin and brought a new pack of cards from the slop chest. Tearing off the wrapper, he scattered the cards over the taffrail. Then, turning to me, he said quite seriously: 'Now you see, we get wind very soon.' And sure enough within half an hour a breeze did spring up and carried us into Port Phillip. One of the sick men died as we dropped the anchor, but the other was rushed to hospital and recovered.

A. MACDERMOTT

EUROPEAN 'SEWN' BOATS

The fact that the natives of the Indian Ocean sewed the planking of their boats in historical times became known to the West soon after the Portuguese rounded the Cape of Good Hope in 1497. Even to-day the fact that such stitching still persists in Eastern seas is often news.[1] It is likewise known that certain of the Scandinavians also sewed the planks of their boats in recent times.[2] It has long been assumed that the boat builders of European countries gave up sewing planks with any form of binding long before the start of the Christian era.

In view of this last supposition, I have for some time been very puzzled by the apparent frequent representation of sewn boats in European miniatures, stained glass, and woodcuts from the thirteenth to the sixteenth centuries.[3] At one time I thought that perhaps this paradox could be explained by assuming that the manuscripts had been inspired by Asiatic miniatures showing sewn boats. However, this would hardly seem to be plausible in view of the fact that the ships depicted are usually contemporary European.

While travelling in Switzerland recently (September 1954), I was absolutely astounded to see on some of the rivers and lakes keel-less boats which appeared to have their sides stitched, in a manner which at a distance seemed to be identical to that in which boats are sewn in the Indian Ocean. Close examination showed that these Swiss boats give the answer to the paradoxical European sewn boats of the thirteenth to the sixteenth centuries.

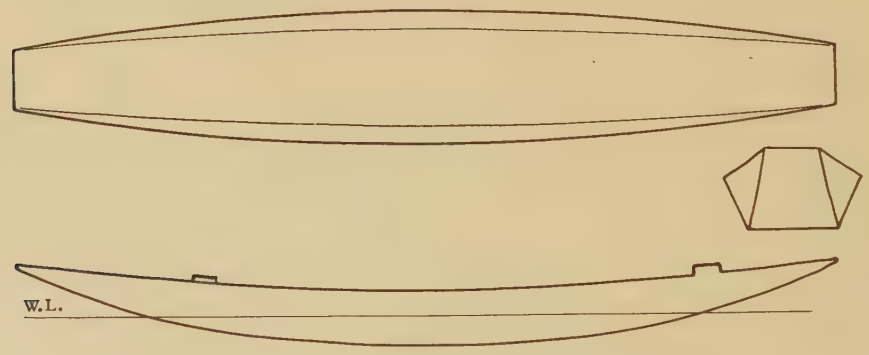


Fig. 1. Lines of the flat-bottomed lake boat found in Switzerland.

The boats are all characteristically built with the same general lines (Fig. 1). Boats with lines similar to Fig. 1 were seen at Geneva, on Lake Leman, at Bremgarten on the Reuss River, at Zurich on the Limmat River, and at Luzern on Lake Vierwaldstatter. Lake Leman gives rise to the Rhone which flows through France, and all the latter flow into the Rhine and Germany. None of the ones which I examined had keels. The bottoms of all were flat in this respect, but they rose up gently from the centre to each end. All had stout ribs evenly spaced along the length

1 R. LeB. Bowen, jr., 'Primitive Watercraft of Arabia', *American Neptune*, Vol. XII (1952).

2 A. S. C. Ross, 'Ohthere's "Cwenas and Lakes"', *Geographical Journal*, Vol. CXX (1954), p. 345.

3 F. Moll, *Das Schiff in der Bildenden Kunst* (Bonn, 1929), shows 23 European 'sewn' boats from the thirteenth to sixteenth centuries, and one from the ninth century: plate G–1, figs. c–9, c-13; plate G–3, fig. e–8; plate G–7, figs. c–10, c–16, k–12; plate G–8, fig. i–5; plate G–11, figs. o–5, p–2; plate G–13, fig. u–19; plate G–16, figs. m–27, u–19; plate G–19, fig. u–22; plate H–d, figs. 197, 198, 199; plate L–a, fig. 41; plate P–a, figs. 1, 4; plate P–b, figs. 94, 139, 171. Ten of these are one-masted ships. One ninth-century 'sewn' boat is shown: plate G–19, fig. u–22.

of the hull. A stout wale runs over the ribs on the inside, connecting all ribs but the last one on each end. The boats of this type which I examined ran from 20 to 35 ft. in length. In most instances the ribs were built up from wooden members fastened together with iron angles and iron fastenings at the two bends. In one instance, the ribs were composed of heavy channel iron 24 in. wide bent to shape.

The planks on the boats which I examined were 4–8 in. wide and 1–1 $\frac{1}{16}$ in. thick. They were bolted to the ribs. The bottom planks ran lengthwise. The edges of each plank were rabbeted and a rectangular batten was laid in the recess formed by the groove in the edge of each of the butting planks. This batten was held in place by vertically disposed metal staples, the ends of which were driven in the butting planks (Fig. 2). These battens and staples were on the outside of the sides, but on the inside of the bottom in most instances. The reason for this is evident. The battens and staples were easier to install from the outside, but if put on the bottom they would be torn out by rocks, shallow bottoms, or by the beach when pulled up.

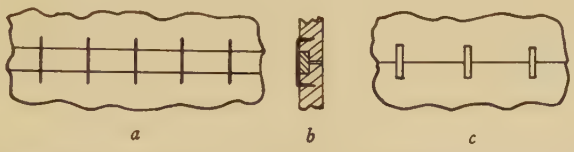


Fig. 2. Exterior staples at the plank seams. (*a*) shows the outside of modern Swiss lake boats with a batten held in place by staples of iron. (*b*) shows a section of (*a*). (*c*) shows similar 'staples' shown in one-masted ships from 1400 to 1500.

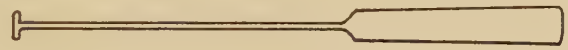


Fig. 3. Form of paddle used by modern Swiss lake boats of the type shown in Fig. 1.

There are also a lot of these boats with transom sterns at Zurich. Their lines appear to be the same as the type shown in Fig. 1, with the exception that one end appears to be cut off or shortened and a transom added. I could not determine whether in general these boats had the seams made watertight with stapled battens. These boats were always smaller than the type shown in Fig. 1 and were generally used as row boats.

Both types of boats at Zurich were propelled by the same means: pushing oars with a characteristic T-shaped handle at their ends (Fig. 3). In the large double-ended boats (Fig. 1) a boss was often left at each end on opposite sides and the oar was made fast to this with a loop of rope through a hole in the boss. The bow boss is placed closer to the end than the stern boss, since the stern oarsman has to stand behind the oar on the rising bottom planking. Rowing proceeds with both men standing and pushing on the oars. There are no rudders, and steering is accomplished by pushing on either one or the other. In the smaller transom-sterned boats, there are two raised bosses at the stern, and a single oarsman stands behind a pair of oars and pushes on them.

This type of rowing is seen in many parts of Europe to-day in preference to the practice of sitting in front of the oars and pulling on them. In Venice this is the method still used by the gondoliers, who push a single oar to propel their graceful gondolas. Also in Venice large passenger rowboats and barges are propelled by a forward oar on one side and an aft oar on the other; both are pushed. Most small rowboats on the west coast of Italy are rowed by pushing on a pair of oars while standing up. Only occasionally does one see a man sitting and pulling the oars.

That this type of construction has been carried out for a great number of years is proven by old illustrations of boats. Moll shows twelve boats from fifteenth- to sixteenth-century miniatures,

paintings, and woodcuts whose lines are similar to Fig. 1.[1] The oar with an elongated blade and a T-shaped handle can be easily traced back to medieval times. It is interesting to note that the two earliest European 'sewn' boats Moll shows are rowboats from the ninth and the thirteenth centuries, both of which are propelled by oars with elongated blades and T-shaped handles.[2]

Two interesting variations are shown in some of the old illustrations of boats with the lines of Fig. 1. One fifteenth-century well-executed woodcut shows a craft which has every appearance of being a dugout: no ribs are shown inside, no fastenings are shown outside, and the sides appear to be thicker than would be necessary with planks.[3] Proof that dugouts were made in Europe as late as the fifteenth century is shown in another woodcut, where a man is carving out with an adze the inside of a boat with these same lines.[4] A rather large boat with similar lines is shown in a sixteenth-century painting.[5] A heavy keel is shown running over the outside of the bottom planking. The bottom planking runs at right angles to the keel, rather than lengthwise, and is of clinker construction. However, the sides are of typical carvel construction. In other large boat of this type with a sail, the bottom planks (as seen from the inside) are run crossways, but no keel is evident.[6]

Reference has already been given to the multitude of 'sewn' boats shown in European illustrations dating from the thirteenth to sixteenth centuries. One firteenth-century Bible illustration would seem to indicate conclusively that at least some of these 'sewn' boats represent boats with battens stapled on.[7] This illustration shows a boat of the same general construction as Fig. 1. There are stout ribs and the planks are fastened to these. 'Stitching' shows on the outside, but does not show on the inside, which is clearly visible. Thus the outside stitches must represent some sort of staples.

It might be suggested that these old boats do not have battens at the plank edges, since a *double* line is not shown on the illustrations. On the modern Swiss boats no line is usually noticed from a distance, so close are the two joints. In fact, many of the old illustrations do not show any line between the two planks; they simply show several series of vertical lines on the side of the hull.

This investigation would seem to raise the question as to whether or not this method of waterproofing seams was used on some early single-masted sailing ships. Of the twenty-three early 'sewn' boats which Moll shows, ten are of single-masted sailing ships from fourteenth- to sixteenth-century sources.[8] In two illustrations of *c.* 1400 there are definite well-drawn lines connecting the plank edges (Fig. 2).[9] R. Morton Nance has recently published an illustration of a copper model from France of *c.* 1500 showing similar vertical members at the seams.[10] He states that it shows planking 'as if fastened together at intervals by billets across the seams, and imitating no possible construction in such a ship'. Certainly there must be an explanation for these vertical members, inasmuch as we have so many examples of them. Since actual stitching was never apparently used on fifteenth-century European ships, these must indicate staples, and we can only assume that they were used in association with wooden battens.

RICHARD LEBARON BOWEN jr.

EXPERIMENTAL ARCHAEOLOGY

In 1913, or, maybe in the first half of 1914, in Païta, North Peru, I chanced to see, from the shore, what seemed a couple of brigs, some way out at sea. Hours later, when they had moored near the beach, I found that they were fishing boats, with hulls similar to the neighbouring ones, about

1 *Ibid.*, plate G–5, fig. g–11; plate G–8, fig. i–2; plate G–9, fig. m–16; plate H–d, fig. 211; plate N–f, figs. 624, 626; plate N–g, fig. 603; plate P–a, figs. 1, 19, 45; plate P–b, fig. 173 (top).

2 *Ibid.*, plate G–3, fig. e–8; plate G–19, fig. u–22.

3 *Ibid.*, plate P–a, fig. 45.

4 *Ibid.*, plate P–b, fig. 173 (top).

5 *Ibid.*, plate N–f, fig. 624.

6 *Ibid.*, plate G–8, fig. i–2.

7 *Ibid.*, plate G–1, fig. c–9.

8 See note 3 above.

9 *Ibid.*, plate G–13, fig. u–19; plate G–16, fig. u–19. One of these ships is also illustrated by Sir Percy Sykes, *A History of Explanation* (London, 1949), plate facing p. 58 from the Harleian MSS. in the British Museum.

10 R. Morton Nance, 'A Copper Processional Ship', *M.M.*, Vol. 41 (1955), p. 162.

the size and general shape of ships' cutters, although somewhat deeper. One was rigged just like a brig without top-gallant sails, the other in a similar way, but I remember that there were differences, the particulars of which have now left my memory. A Peruvian master mariner, asked if the like was more or less customary in those quarters, said it was not: just a fancy of these boats' crews to look like a big ship. He added that the local fishermen—Indians with varying proportions of white blood—were admittedly described as *muy vivos*, which, when elaborated, I found to mean very clever and designing, and to hint pretty keen on pilfering. There was, unfortunately, no time to investigate about the boats and their achievements. As far as I can remember, the other fishing boats had one portable mast with one lug or squarish sail. L. GUILLEUX LA ROËRIE

THAMES–MEDWAY CANAL

Your correspondent, Mr Willis, is, I think, rather severe on the Thames-Medway Canal when he states that it served no useful purpose at all. Even if the 'check' of the entrance and exit locks did in fact restrict the speed of the canal journey, at any rate it was a SAFE journey.

It could be done in foggy weather and in high wind, and possibly at night time, if necessary.

Furthermore, the 'skipper' for the canal journey did not have to be an experienced 'sailorman' with special knowledge of the Medway Estuary and its navigation. W. ADAM WOODWARD

QUERIES

(1) In verse 17, what is the meaning of *ὑποζωννύντες* (A.V. 'undergirding') and *βοηθείαι* (A.V. 'helps')?

(2) What does *χαλάσαντες τὸ σκεῦος, οὕτως ἐφέροντο* mean? The A.V. has 'strake sail, and so were driven': did they lower the sail completely and just drift, or did they continue to sail?

(3) In verse 19, is *τὴν σκευὴν* just 'furniture', or something more nautical? A.V. has 'tackling'.

(4) In verse 32, can *τὰ σχοινία* properly be translated 'falls'? A.V. has 'ropes'; would St Paul's ship have had anything like the modern davits for hoisting and lowering the seaboat?

P. J. SPICER

10. (1956.) FAMILY HISTORY OF THE MUDIES. I am helping in the collection of data for a family history of the Mudies in Angus, and, during our researches we have come across a reference to a Mudie who was said to 'have served aboard the *Victory* as a quartermaster under Nelson'. We know little more about him except that he was reported to come from Kirkcaldy in Fife, whereas most of this name come from Angus.

Are any of the *Victory*'s Muster Books or Quarter Bills of the early 1800's still available for consultation? Would the *Victory* Museum at Portsmouth or the National Maritime Museum know of the whereabouts, if extant. I would be very grateful for any information likely to help in my researches.

I. M. N. MUDIE

11. (1956.) MERSEY TRAINING SHIPS. For some time I have been engaged upon compiling information regarding the former Mersey training ships for boys.

Among them was the *Akbar* establishment, the original ship said to have been either an East Indiaman or a unit of the H.E. I Cos. Marine.

The original *Akbar* was built in Bombay in 1800 and acquired by the Royal Navy in 1801 and under the name *Cornwallis* served in East Indian waters until 1811. Unfortunately I am not able to consult Navy Lists prior to 1813 and, so far, cannot obtain much information regarding the period 1800 to 1806, nor the names of her captains prior to C. J. Johnson, who was in command in 1806. I would be very grateful for any information likely to help in my researches.

JOHN SMART

12. (1956.) Colour identifying homonymous vessels. In the *Mercantile Navy List* for 1880, three sloops of about the same size (4 or 5 tons) but of different ages (7–54 years) and ownership are listed as *Zwei Gebrüder* (blau), *Zwei Gebrüder* (braun), and *Zwei Gebrüder* (grün). Two others in this case owned by the same man, are listed as *Drei Kronen* (blau), and *Drei Kronen* (gelb). All five were built and owned in Heligoland.

What is the explanation for this colour designation? If it had been applied to the vessels named *Ann*, *Jane* or *Mary* in the same volume, it would have taken a textile expert or at least an ornithologist to distinguish a sufficient number of hues and shades.

J. LYMAN

13. (1956.) Lateen mainsails on brigs. Sir Alan Moore's mention of the *bilander* in the February *M.M.* (p. 26) reminds me that twentieth-century models and paintings of American brigs of war of the period 1775–82 frequently depict them as carrying a full lateen mainsail. I have never encountered a contemporary authority for this rig. Does any in fact exist?

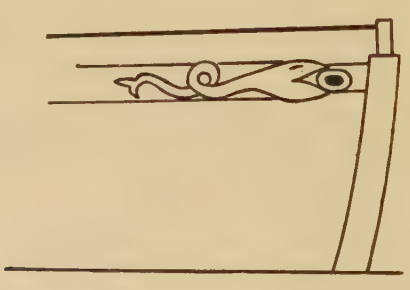
J. LYMAN

14. (1956). St Paul's Voyage to Melita. I should be grateful if any readers can give me a good modern interpretation of some of the nautical expressions used in Acts xxvii. Specifically:

ANSWERS

18. (1954.) 'Oculi' in European craft. The treatment of the hawse-holes of Swedish fishing vessels in such a way as to produce something near an 'oculus' decoration does in fact occur on the west coast of Sweden as well as the east, though neither Mrs Anderson nor I had noticed this before last summer. One boat belonging to Varberg showed a variation on the 'dragon' form, in which the oval hawse-hole was not used as the creature's eye, but held between its jaws like an egg, as shown in the sketch.

R. C. ANDERSON



25. (1955.) Splice the main brace. I would suggest that 'Splice the Main Brace' is a nautical term equivalent to the classical 'Ad calendas graecas', and to Charles Kinglsey's 'Coming of the Coccigrues', in *Water Babies*.

The main brace, in the Royal Navy, was one of the 'tapered' ropes; having its maximum circumference near the yard, and tapering off to its end: this ensured its free rendering through the brace block when 'going about'. To put a long-splice in such a rope would be, of course, to sacrifice the gain obtained by the tapering. Even if the brace were not a tapered rope the long-splice would not render freely through the block. For this reason spare braces were always carried—and the main brace would be spliced only in the most exceptional circumstances. I have stated this in my recently published *Dictionary of Nautical Words and Terms* (Brown, Son and Ferguson, Ltd., Glasgow).

CYRIL W. T. LAYTON

3. (1956.) Lists of wooden men-of-war. Commander Rupert Jones's lists have not been reprinted. He left a general combined list in ten manuscript volumes which are now in my possession. There is a typewritten copy of this list in the National Maritime Museum and, I think, another in the Admiralty Library. All the ships mentioned are included.

R. C. ANDERSON

REVIEWS

Viceamiral Carl Olof Cronstedt. By W. Odelberg. Stockholm, 1955.

Cronstedt was an officer who is remembered more on account of a single notorious failure than for his previous good service and its one outstanding success. The failure was at Sveaborg in 1808, when he surrendered both fortress and flotilla to the Russians almost on demand; the success had been in the second battle of Svensksund in 1790, where he had been flag-captain to Gustaf III and had been mainly responsible for the Swedish victory.

Mr Odelberg is chiefly concerned with the surrender of Sveaborg, and has been led to consider Cronstedt's previous record in the hope of discovering why he acted as he did. He cannot be said to have reached any very definite verdict, but he does show that two possible explanations, political and pecuniary, are both improbable; while he shows too that similar surrenders were by no means unprecedented. One gathers that Cronstedt was a tired and disappointed man and that he looked on the position in the same way as a chess player, who resigns rather than play out what appears to be a hopeless game.

Born in Finland in 1756, Cronstedt joined the galley-fleet in 1773 and was one of many Swedish officers who were given leave in 1776 to take service in the British navy. His first appointment was as Midshipman in the *Perseus* under Captain Elphinstone, afterwards Lord Keith. In this connexion the book tells us that some of these Swedish officers regretted their choice of sides. One wrote on changing ships that he was glad to get away from 'a Captain of such doubtful character and Lieutenants as uneducated as a Skåne peasant'. He thought he would do well to shift to the French or Spanish service!

After his return to Sweden in 1789 Cronstedt also wished to enter French service, but was appointed to a frigate for convoy duty in the Mediterranean. In 1782 he was himself in command of a similar expedition; then after a short period ashore, was flag-captain to Ehrensvärd in the first battle of Svensksund, 1789. This was a defeat for the Swedes, but far less decisively so than that suffered by the Russians in the same place next year, when Cronstedt was again flag-captain, with the King in command.

During the ensuing years of peace he held several important administrative posts including for a short time one roughly equivalent to 'Minister of Marine'. In 1801 he was responsible for recalling the Swedish fleet to Karlskrona and thus saving it from attack by an overwhelming British force, but soon after this he fell into disfavour and was more or less put on the shelf as Governor of Sveaborg, an appointment which lasted until his final disgrace. He remained in Finland and died, as a Russian subject, in 1820.

The book is essentially a biography, not a history of the Swedish navy or galley-fleet, but in its own sphere it is extremely thorough and very well documented.

R. C. ANDERSON

THE JOURNALS OF CAPTAIN JAMES COOK ON HIS VOYAGES OF DISCOVERY. THE VOYAGE OF THE *ENDEAVOUR* 1768–1771. Ed. by J. C. BEAGLEHOLE. Cambridge: for the Hakluyt Society at the University Press, 1955. 9 × 6 *inches*. cclxxxiv, 684 pages, *Plates and maps*. £4.

CHARTS AND VIEWS DRAWN BY COOK AND HIS OFFICERS AND REPRODUCED FROM THE ORIGINAL MANUSCRIPTS. Ed. by R. A. SKELTON. Cambridge: for the Hakluyt Society at the University Press, 1955. 15 × 9½ *inches*. 68 *facsimiles*. £2. 10*s*.

Stated succinctly, the achievements of James Cook on his voyage in the *Endeavour* are remarkable; the voyage round the world in 'a Cat of 370 tons' without a consort; the navigation of the Barrier Reef—'360 Leagues without ever having a Man out of the chains heaving the Lead when the Ship was under way'—and 2000 miles of the New Zealand coast discovered and charted, with another 2500 miles of the coast of eastern Australia. Clearly the commander and the ship's company rose to every opportunity or challenge that presented itself. But making allowance for the support he received from others, as one reads the narrative of the voyage in this handsome volume, it is Cook's own personal contribution to its success that continually impresses the reader. It is impossible to find a strict parallel to Cook among British navigators before or after his time. His spiritual successors among the naval surveyors of the following century charted thousands of miles of coastline but, except perhaps among the desolate islands of the Arctic, were rarely in the strict sense discoverers. Of his predecessors, there is only one who comes readily to mind, John Davis, for his work in the waters west of Greenland—and his charts have not survived. These two men, incidentally had perhaps not surprisingly, much in common: a mastery of the navigational science of their day, entire devotion to their task, and no self advertisement. Not that Cook displayed any false modesty: both in the Journal and in the Charts he makes quite plain the extent of his own contribution. It is little wonder therefore that recognition of James Cook's qualities was immediate and that he has stirred the imagination of readers for nearly two centuries. It is at first sight not easy to understand why it is only now that the original sources are being made available for a really adequate appreciation of his achievement. However that may be, it is eminently satisfactory that so scholarly an edition of his Journals should now be in course of publication by the Hakluyt Society. With the four volumes, of which this is the first, and the portfolio of charts at hand, the student will have all the material for studying a fascinating, and in some degree enigmatic, personality.

Behind the scholarship and enthusiasm of Dr Beaglehole, Mr R. A. Skelton and numerous other experts, is the public spirited support of the New Zealand government, the Pilgrim Trust, Mr Esmond de Beer and his sisters. This fortunate conjunction has ensued that Cook's 'Remarkable occurences on board His Majesty's bark Endeavour' is presented with all the critical apparatus and relevant supplementary material in a volume which is well designed and handsome in appearance, and just manages to avoid being unwieldy. The text of the Journal is from the Canberra copy, the only one in Cook's holograph, and the editor gives in footnotes all variants in the three other copies: in the Mitchell Library, Sydney, the National Maritime Museum and the Admiralty Library respectively. It should be remembered that though in Cook's autograph, the Canberra Journal was a fair copy, and has consequently undergone a certain amount of editing. The reader, however, never feels the least necessity to question the truth of Cook's assertion; 'In this Journal I have with undisguised truth and without gloss inserted the whole transactions of the Voyage and made such remarks and have given such descriptions of things as I thought was necessary in the best manner I was capable off.' The history, admittedly, in part conjectural of the Canberra MS., 'whose "disappearance" occasioned a great deal of wrong-headed speculation and argument on certain matters connected with the voyage, is treated in a skilful manner by Mr Skelton who in a few closely packed pages tackles such unpromising clues as the genealogy of

a family surnamed Smith (in fact, the family of Cook's wife). Dr Beaglehole has also annotated the text freely, elucidating the ethnography, the place names and the events of the voyage.

One point which is rightly stressed, and further emphasized by the publication of a portfolio of charts and views, is the importance of the graphic records. Little, however is said of them editorially in this volume—the topic is to be treated in volume four—and it is to Cook that we turn for enlightenment. He nowhere gives a full account of the technique employed as he might be expected to, since he puts it forward as an innovation, and one which would be valuable 'would Sea officers once apply themselves to the makeing and calculating these observations'. The basis of the running surveys of the coasts was ultimately the frequent determination of latitude and longitude by which the dead reckoning of the log was adjusted. Observations for latitude were carried out practically every day. The longitude (there was no chronometer on board) was obtained generally by lunar distances, but occasionally by the occultations of Jupiter's satellites, methods made possible by Maskelyne's nautical almanac. With lunars, Cook considered the average determination to be accurate within half a degree, and he adds rather surprisingly, 'more than Sufficient for all nautical purposes'. On one occasion two more or less simultaneous observations agreed within two miles: on another, after an interval of five days, ship's reckoning and observed position showed a discrepancy of eight miles only (Banks poked fun at the readiness with which such differences were attributed to the effects of currents). Cook pays tribute to the assistance he received from Charles Green the astronomer in these laborious observations. As to the running surveys, Cook says practically nothing beyond a statement that the positions of the principal headlands, bays and other notable features could be relied upon. Presumably they were inserted by intersections from points on the ship's adjusted course, though this is not stated. The charts, being fair copies, do not help. Some of the distances given are too great for them to have been estimated. The importance attached to accurate bearings is evidenced by the frequency and care with which observations for azimuth were made. The general accuracy of the charts, all things considered, is striking. For large-scale plans of estuaries, harbours and so forth, Cook was furnished with a theodolite and plane table. On points such as these some guidance might have been afforded to the general reader, for a good deal of space in the Journal is given up to them.

On page cclxxiv the editor states that 'the primary purpose of this edition is to provide a text', and after a further ten pages the text duly begins, to be followed by some 250 pages of appendices. It is clear therefore that a number of secondary purposes were also in mind. These include a calendar of Cook's letters and reports, variant versions of his Journal, the nominal roll, and portions of three other journals, that of W. B. Monkhouse, the surgeon, giving a valuable account of New Zealand. But outstanding among these is the essay by the editor on the history of Pacific exploration. This is not the place to follow him in detail, but it may be said that in general he prefers straightforward explanations and avoids subtilties; 'There is never any reason, in discussing Cook, to embark on elaborate hypotheses of makebelieve'. He refuses to regard it as more than just possible that the sixteenth-century Dieppe charts embody a representation of the Australian coastline, or to see any sinister significance in the change of name from Stingrays Bay to Botany Bay. He is amply justified in maintaining that though Cook may have considered the existence of Torres Strait possible, this cannot in the slightest detract from his great feat of navigation in bringing the *Endeavour* safely through 'that obscure and awful labyrinth' of the Barrier Reef.

He is perhaps not quite just to Tasman in implying that he made little effort to solve problems connected with the north coast of New Guinea, for Tasman was undoubtedly looking for a passage at the north-east end; and is it fair to write Alexander Dalrymple off as a 'sciolist'? But such comments are of little consequence when weighed against the positive achievement. The reader will put down Dr Beaglehole's essay convinced almost of the inevitability of Cook's triumphs in the Pacific.

Throughout the wealth of material in this volume and the portfolio the dominating theme is Cook himself, and it is natural to turn to him again in concluding this notice. It is simple to demonstrate where and how he acquired his skills; his flair for inshore work demonstrates no doubt 'the value of the coal trade in the training of the discoverer'; his ability as a hydrographical surveyor owed something to instruction from military engineers in Canada; his sense of order and rather

rigid code of behaviour was instilled by the Royal Navy. Throughout his career Cook was exceptionally quick in acquiring and applying knowledge—as Dr Beaglehole points out, he learnt much from Joseph Banks on this first voyage. But allowing for all these individual parts, there was the driving force which fused these faculties together to serve one overriding purpose. Here was the spark of genius, admitting of no ultimate analysis.

G. R. CRONE

SHIPBUILDING IN MINIATURE. By DONALD MCNARRY. Percival Marshall and Co., Ltd., 1955. $7\frac{1}{4} \times 5$ *inches. Illustrated.* 12*s.* 6*d.*

It is often possible to select from a book a sentence which conveys something of its very spirit. In this one there is a description of a miniature liner, built by the author, which states that the model is $14\frac{1}{2}$ inches long and ends with the sentence '. . . chairs and tables are set out in the verandah cafe and a coloured beach ball is shown in the swimming pool'.

Mr McNarry, who is probably the most skilful builder of miniature ship models to-day, states his own creed. He believes that it is not enough to build ship models but that the finished product should in fact, be a miniature ship. He gives effect to this belief by refusing to neglect any detail which can be accurately represented. He works to a scale of 50 feet to the inch, and informs the reader how the multitude of copper plates on the hull of the Cutty Sark may be reproduced within those limits and how lobelia seeds, black leaded and polished with a soft paint brush, may be used for cannon balls in the racks round the hatch coamings of a historic sailing ship which probably has an overall length of 3 or 4 inches.

The book is remarkably comprehensive, starting with a description of the comparatively few tools needed in miniature shipbuilding. This chapter includes directions for making small chisels and gouges from suitably sized needles tempered soft, filed to the correct shape, tempered hard and then stone-sharpened in the usual way. Nor is there any lack of guidance concerning the materials to be used; the author has that wide knowledge of different types of wood which is one of the most typical attributes of the craftsman of long experience.

Accumulation of experience is also reflected in an invaluable chapter on Research which gives a wealth of information about museums and other agencies which can supply data and plans, and ends with practical advice on the equipment and clothing needed for visits to ships in port; the final item recommended in this connexion is a selection of small envelopes to hold sample flakes of paint!

The core of the book consists, of course, of the chapters giving instructions for the actual building of the miniature ships and the reader is guided through all the intricate processes involved with an admirable clarity which is augmented by numbers of line drawings in the course of the text. All is covered, from the preparation of a holding block to keep the hull in position during the long and interesting hours of manipulation to the building of a case worthy to hold the result of them. Some of the detail work involved has already been mentioned, and there are also touches of the artistry which inspires consummate craftsmanship in passages like the one which shows the modeller how to represent the tightening of the rigging on the weather side of a sailing vessel and the corresponding slackening on the other.

Numerous excellent photographs taken by the author are used to illustrate the chapters on Tools, Materials and Research, and also to give examples of the author's own work in miniature shipbuilding. The latter photographs reflect the wide range of subjects which he has chosen, for they include models of Restoration period ships, the modern liner already mentioned and models of the special casing built to float Cleopatra's needle across the sea to England and of the powerful paddle tug which towed it; all these models, or rather, miniature ships are, of course, on a scale of 50 feet to the inch. Furthermore, any curiosity so understandably aroused by these photographs is satisfied by a chapter devoted to explaining them.

It would be hard indeed to exaggerate the value of Mr McNarry's admirable book or do justice to its scope.

J. P. LEA BIRCH

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